



May 1, 2023

Mr. Otis Spriggs
Director of Development Services
City of Angleton
121 S. Velasco
Angleton, TX 77515

Re: On-Going Services
Live Oak Ranch Subdivision Final Plat and Construction Plans – 2nd Submittal Review
Angleton, Texas
HDR Job No. 10336228

Dear Mr. Spriggs:

HDR Engineering, Inc. (HDR) has reviewed the construction plans for the above referenced subdivision and offers the following comments:

General

1. The Angleton Drainage District provided a letter of approval, dated August 17, 2022, with stipulations noted and is provided as an attachment in this review. The Property Owner shall follow the provisions noted in the letter regarding additional structures added to the site in the future. Additionally, improvements shown to discharge into A.D.D. facilities shall be reviewed, inspected, and approved as part of the proposed construction.
2. Texas New Mexico Power has provided a Letter of No Objection contingent upon the recordation of acceptable utility easements as shown on the proposed plat and is provided as an attachment. It shall be the responsibility of the Developer to satisfy all requirements for utility service to the proposed subdivision.
3. It shall be the responsibility of the Developer to complete the unimproved half portion of Angleton Boulevard as part of the proposed subdivision improvements for the Live Oak Subdivision.

Final Plat

Sheet 1 of 2:

1. Revise abbreviations table to notate Brazoria County and associated records.
2. Provide note that it shall be the responsibility of the Developer to complete the unimproved half portion of Angleton Boulevard.
3. Update plat date to current month/year.

Sheet 2 of 2:

1. Provide one corner of the plat to reference the corner of the original abstract survey.

2. Provide a note on the plat that states no driveway access is allowed from Angleton Boulevard for applicable lots.
3. Update Lot Table for block 2 to match lot count on plat (Lots 1 - 19).
4. Update plat date to current month/year.

Construction Plans

Sheet 4 of 49:

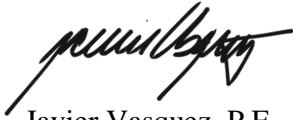
1. Provide a revised copy of the final plat in the construction plans and include both sheets 1 and 2 of the final plat.

HDR takes no objection to the Live Oak Ranch Subdivision Final Plat and Construction Plans with the exceptions noted. Please note, this does not necessarily mean that the entire drawings, including all supporting data and calculations, has been completely checked and verified; however, the drawings and calculations are signed, dated, and sealed by a registered professional land surveyor and professional engineer licensed to practice in the State of Texas, which therefore conveys the design professional's responsibility and accountability.

If you have any questions, please feel free to contact us at our office (713)-622-9264.

Sincerely,

HDR Engineering, Inc.



Javier Vasquez, P.E., CFM
Civil Engineer

cc: Files (10336228)

Attachments

ANGLETON DRAINAGE DISTRICT



A Political Subdivision of the State of Texas
P.O. Box 2469, Angleton, Texas 77516-2469
Phone: (979) 849-2414 Fax: (979) 848-8160

August 17, 2022

Odyssey Engineering
Attn: Nolan Maciejeski
2500 Tanglewilde Street, Suite 480
Houston, Texas 77063

Re: Live Oak Ranch Subdivision
Plat, Grading, Drainage and Detention

Dear Mr. Maciejeski:

During the special public meeting and budget workshop held on August 16, 2022, the Angleton Drainage District Board of Supervisors unanimously approved the plat, grading and drainage and detention plan for Live Oak Ranch Subdivision as presented:

As presented, this is a proposed 45.10-acre residential development to consist of 65 homes which is east of Angleton Country Estates. The average lot size is 60-feet wide by 110-feet in depth. The existing Houston and Dallas Street will be expanding to connect to this proposed subdivision. There will be an onsite detention pond consisting of 4.87-acre detention pond that will provide 13.90 acre feet of storm water storage. There will be a 24-inch restricting pipe at the outfall into the City's ditch (Earl Knight Ditch) and slope paving will be constructed where the outfall pipe enters the ditch. The revised plan has an elevation storage table to show that the detention pond provides the necessary volume, the connection of the proposed slope paving to the existing slope paving so that there will not be pocket erosion between the two slope paved areas, and has provided a restrictive pipe calculation to verify the 24-inch restricting pipe is appropriate.

If any structures are added to this site in the future, a subsequent review by the Angleton Drainage District will be required to ensure there are no adverse impacts to adjacent landowners.

Approval of the Plat, Grading, Drainage and Detention plan in no way represents that Live Oak Ranch has complied with any federal, state, county or other law, statute, procedure or requirement of any type beyond the approval of the Plat, Grading, Drainage and Detention plan, with the stipulations listed in this letter, if any, by the District.

Should you have any questions regarding this matter, please contact the Angleton Drainage District at 979.849.2414, Monday through Thursday, 7:00 a.m. to 5:30 p.m.

Sincerely,

A handwritten signature in blue ink that reads "David B. Spoor".

David B. Spoor, Chairman
Angleton Drainage District Board of Supervisors



1207 W. Parkwood Ave.
Friendswood, TX 77546
(281) 996-0453, ext. 37103

March 3, 2023

Clint Mann
Angleton Live Oak Ranch, LLC
2525 Pebble Lodge Ln
Friendswood, TX 77546

RE: Final Plat of Live Oak Ranch, Angleton, Texas

Dear Mr. Mann:

TNMP completed its review of the Final Plat of Live Oak Ranch, being a subdivision of 20.000 being all of Lots 1 through 18, Block 6, all of Lots 1 through 36, Block 7, and all of Lots 1 through 18, Block 8, Angleton Country Estates, recorded in Book D, Volume 29, Page 75, B.C.P.R., City of Angleton City Limits, Brazoria County, Texas. dated January 2023.

TNMP has no objections to the referenced Final Plat of Live Oak Ranch. contingent upon recordation of acceptable utility easements as shown at EXHIBIT "A". TNMP is able to provide electric service to the referenced Plat, dated September 2022, in accordance with the Public Utility Commission of Texas Rates and Tariffs. Public Utility Commission of Texas Rates and Tariffs can be found on website:

<http://www.puc.texas.gov/industry/electric/rates/Trans/TNMP.pdf>

You must have Adobe-Acrobat-PDF to view on computer. For a free download, this can be found at website:

<http://www.adobe.com/products/acrobat/adobepdf.html>.

This letter does not give consent to any encroachments, abandonment of pre-existing easement, roads, alleys, or street rights-of-way. Abandonment of the above requires a formal review, and closure process.

Please contact me should you have any questions or require additional information at 281.996.0453, ext. 37103 or via email at vincent.herrera@tnmp.com

Sincerely,

Vincent R. Herrera, P.E.
Director – Distribution Engineering
TNMP

DEDICATION STATEMENT

STATE OF TEXAS §
COUNTY OF BRAZORIA §

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS: That ANGLETON LIVE OAK RANCH, LLC, a Texas limited liability company, Owners, do hereby adopt this plat designating the hereinabove described property as LIVE OAK RANCH, a subdivision in the jurisdiction of the City of Angleton, Texas, and do hereby dedicate, in fee simple, to the public use forever, the streets, alleys and public parkland shown thereon.

APPROVED this _____ day of _____, 2022, by the Planning and Zoning Commission.

City of Angleton, Texas.
By: _____
Chairman
Planning and Zoning Commission

By: _____
City Secretary

DRAINAGE EASEMENTS MAINTAINED BY A HOMEOWNER'S ASSOCIATION

STATE OF TEXAS §
COUNTY OF BRAZORIA §

This plat is hereby adopted by the owners (called "Owners") and approved by the City of Angleton, ("City") subject to the following conditions which shall be binding upon the Owners, their heirs, grantees, successors, and assigns:

*Drainage Easements shown on the plat are reserved for drainage purposes forever, and the maintenance of the drainage easements shall be provided by all of the owners of lots in the subdivision and through a lawfully created homeowners association to be created by the Owners. The Owners covenant and agree that such a homeowners' association (called "Association") shall be created prior to the final acceptance of the City. All Association documents shall be subject to the approval of the City and shall specifically contain covenants binding the Association to continuously maintain all Drainage Easements. Such covenants shall not relieve the individual lot owners of the responsibility to maintain the Drainage Easements should the Association default in the performance of its maintenance responsibility. The Association documents shall also contain provisions that they may not be amended with regard to the Drainage Easement maintenance responsibilities without the approval of the City. The fee simple title to all Drainage Easements shall always remain in the Association.

The City and Angleton Drainage District are not responsible for the maintenance and operation of said easements or for any damage or injury to private property or person that results from the flow of water along said easement or for the control of erosion, but does reserve the right to use enforcement powers to ensure that drainage easements are properly functioning in the manner in which they were designed and approved.

The City and Angleton Drainage District reserves the right, but not the obligation, to enter upon any Drainage Easement at any point, or points, with all rights of ingress and egress, to investigate, survey, erect, construct, or maintain any drainage facility deemed necessary by the City for drainage and safety purposes.

The Owners shall keep all Drainage Easements clean and free of debris, silt, and any substance which would result in unsanitary conditions or obstruct the flow of water, and the City of Angleton or Angleton Drainage District shall have the right of ingress and egress for the purpose of inspection and supervision of maintenance work by the Owners to alleviate any public health or safety issues. The Association hereby agrees to indemnify and hold harmless the City from any such damages and injuries.

DRAINAGE AND DETENTION EASEMENT

STATE OF TEXAS §
COUNTY OF BRAZORIA §

This plat is hereby adopted by the Owners and approved by the City of Angleton (called "City") subject to the following conditions which shall be binding upon the Owners, their heirs, grantees and successors: The portion of Block 1, as shown on the plat is called "Drainage and Detention Easement." The Drainage and Detention Easement within the limits of this addition, will remain open at all times and will be maintained in a safe and sanitary condition by the owners of the lot or lots that are traversed by or adjacent to the Drainage and Detention Easement. The City will not be responsible for the maintenance and operation of said Easement or for any damage to private property or person that results from conditions in the Easement, or for the control of erosion. No obstruction to the natural flow of stormwater run-off shall be permitted by construction of any type of building, fence, or any other structure within the Drainage and Detention Easement as hereinabove defined, unless approved by the City Engineer. Provided, however, it is understood that in the event it becomes necessary for the City to erect or consider erecting any type of drainage structure in order to improve the storm drainage that may be occasioned by the City shall have the right to enter upon the Drainage and Detention Easement at any point or points, to investigate, survey or to erect, construct and maintain any drainage facility deemed necessary for drainage purposes. Each property owner shall keep the Drainage and Detention Easement clean and free of debris, silt, and any substance which would result in unsanitary conditions or obstruct the flow of water, and the City shall have the right of ingress and egress for the purpose of inspection and supervision of maintenance work by the property owner to alleviate any undesirable conditions which may occur. The natural drainage through the Drainage and Detention Easement is subject to storm water overflow and natural bank erosion to an extent which cannot be definitely defined. The City shall not be held liable for any damages of any nature resulting from the occurrence of these natural phenomena, or resulting from the failure of any structure, or structures, within the Easement.

The owners of land shown on this plat, in person or through a duly authorized agent, dedicate to the use of the public forever all streets, alleys, parks, watercourses, drains, easements and public places thereon shown for the purpose and consideration therein expressed.

ANGLETON LIVE OAK RANCH, LLC,
a Texas limited liability company

By: _____
Clint A. Mann,
President

STATE OF TEXAS §
COUNTY OF BRAZORIA §

Before me, the undersigned, personally appeared Clint A. Mann, President of Angleton Live Oak Ranch, LLC, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the _____ day of _____, 2022, A.D.

Notary Public in and for
The State of _____
Printed Name of Notary / Expires

STATE OF TEXAS §
COUNTY OF BRAZORIA §

KNOW ALL MEN BY THESE PRESENTS: That I, Megan Lee Crutcher, do hereby certify that proper engineering consideration has been provided in this plat. To the best of my knowledge, this plat conforms to all requirements of the Angleton LDC, except for any variances that were expressly granted by the City Council.

Megan Lee Crutcher, P.E.
Registered Professional Engineer
State of Texas No. 109803

Date

GENERAL NOTES:

1. ABBREVIATIONS, UNLESS OTHERWISE STATED, ARE AS FOLLOWS:

- B.L. - BUILDING LINE
D.E. - DRAINAGE EASEMENT
D.O.C. - DOCUMENT
ISM. - EASEMENT
ETJ - EXTRAJURISDICTIONAL JURISDICTION
F.N.D. - FLOOD
F.B.C.C.F. - FORT BEND COUNTY CLERK'S FILE
F.B.C.D.R. - FORT BEND COUNTY DEED RECORDS
F.B.C.M.F. - FORT BEND COUNTY MAP RECORDS
I.P. - IRON PIPE
R. - IRON ROD
NO. - NUMBER
O.R.F.B.C. - OFFICIAL RECORDS FORT BEND COUNTY
P.G. - PAGE
P.O.B. - POINT OF BEGINNING
R.O.W. - RIGHT-OF-WAY
S.Q.F.T. - SQUARE FEET
S.S.E. - SANITARY SEWER EASEMENT
S.M.S.E. - STORM SEWER EASEMENT
U.E. - UTILITY EASEMENT
VOL. - VOLUME
W.L.E. - WATER LINE EASEMENT

Revise abbreviations table to notate Brazoria County and associated records

- 2. ELEVATIONS USED FOR Delineating CONTOUR LINES ARE BASED UPON U.S.C. & G.S. DATUM, NAVD 88 (1991 ADJ.)
3. ALL BEARINGS WERE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, TEXAS STATE PLANE SOUTH CENTRAL ZONE (NAD 83). ALL DISTANCES SHOWN HEREON ARE SURFACE DISTANCES AND MAY BE BROUGHT TO GRID BY APPLYING THE FOLLOWING SCALE FACTOR: 0.999865957.
4. SURVEYOR DID NOT ABSTRACT SUBJECT PROPERTY. THIS SURVEY WAS PREPARED WITH INFORMATION CONTAINED IN TITLE COMMITMENT FILE NO. 1241804 OF STEWART TITLE GUARANTY COMPANY, EFFECTIVE DATE OF MAY 20, 2021, ISSUED DATE OF MAY 25, 2021, AND IS SUBJECT TO THE LIMITATIONS OF THAT COMMITMENT.
5. FLOOD ZONE STATEMENT: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48038C0448, EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X". THIS DETERMINATION WAS DONE BY GRAPHIC PLOTTING AND IS APPROXIMATE ONLY, AND HAS NOT BEEN FIELD VERIFIED. THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE ON RARE OCCASIONS FLOODS CAN AND WILL OCCUR AND FLOOD HEIGHTS MAY BE INCREASED BY MAN-MADE OR NATURAL CAUSES. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF MILLER SURVEY.
6. THE POSSIBLE EXISTENCE OF UNDERGROUND FACILITIES OR SUBSURFACE CONDITIONS OTHER THAN THOSE SHOWN MAY AFFECT THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHOWN HEREON.
7. NOTICE: SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF THE UNIFIED DEVELOPMENT CODE OF THE CITY OF ANGLETON AND STATE PLATING STATUTES AND IS SUBJECT TO FINES AND WITHHOLDING OF UTILITIES AND BUILDING PERMITS.
8. NOTICE: PLAT APPROVAL SHALL NOT BE DEEMED TO OR PRESUMED TO GIVE AUTHORITY TO VIOLATE, NULLIFY, VOID, OR CANCEL ANY PROVISIONS OF LOCAL STATE, OR FEDERAL LAWS, ORDINANCES, OR CODES.
9. NOTICE: THE APPLICANT IS RESPONSIBLE FOR SECURING ANY FEDERAL PERMITS THAT MAY BE NECESSARY AS THE RESULT OF PROPOSED DEVELOPMENT ACTIVITY. THE CITY OF ANGLETON IS NOT RESPONSIBLE FOR DETERMINING THE NEED FOR, OR ENSURING COMPLIANCE WITH ANY FEDERAL PERMIT.
10. NOTICE: APPROVAL OF THIS PLAT DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION, AND CALCULATIONS SUPPLIED BY THE APPLICANT THE ENGINEER OF RECORD OR REGISTERED PUBLIC LAND SURVEYOR IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY THE CITY ENGINEER.
11. NOTICE: ALL RESPONSIBILITY FOR THE ADEQUACY OF THIS PLAT REMAINS WITH THE ENGINEER OR SURVEYOR WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF ANGLETON MUST RELY ON THE ADEQUACY OF THE WORK OF THE ENGINEER AND/OR SURVEYOR OF RECORD.
12. SIDEWALKS THAT CONFORM TO ACM SPECIFICATIONS AND ALL ACCESSIBILITY STANDARDS SHALL BE INSTALLED CONCURRENT WITH CONSTRUCTION OF DEVELOPMENT.
13. FRONT SETBACKS SHALL BE 20 FEET, REAR SETBACKS SHALL BE 10 FEET, SIDE SETBACKS SHALL BE 16 FEET FOR LOTS ADJACENT TO R.O.W., 5 FEET FOR INTERIORS, AND 5 FEET FOR KEY CORNER LOTS.
14. BUILDING SETBACKS SHALL BE APPLICABLE PER NOTE 13 ABOVE UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE PLAT. IN NO CASE SHALL THE BUILDING SETBACKS SHOWN ON THE PLAT BE LESS THAN THE MINIMUM REQUIREMENT OF THE UNIFIED DEVELOPMENT CODE OF THE CITY OF ANGLETON.
15. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, OR A PROPERTY OWNER ASSOCIATION, TO MAINTAIN THE RESERVE TRACT.

Provide note that it shall be the responsibility of the Developer to complete the unimproved half portion of Angleton Boulevard.

Chairman, Board of Supervisors Board Member
Board Member

STATE OF TEXAS §
COUNTY OF BRAZORIA §

KNOW ALL MEN BY THESE PRESENTS: That I, John Mark Otto, do hereby certify that I prepared this plat from an actual and accurate survey of the land and that the corner monuments shown thereon were properly placed under my supervision.

John Mark Otto
Registered Professional Land Surveyor
State of Texas No. 6672

Date

LEGAL DESCRIPTION

METS AND BOUNDS DESCRIPTION OF 20,000 ACRES OR 871,200 SQUARE FEET OF LAND SITUATED IN THE SAAC TINSLEY SURVEY, ABSTRACT NO. 375, BRAZORIA COUNTY, TEXAS, BEING ALL OF LOTS 1 THROUGH 18, BLOCK 6, ALL OF LOTS 1 THROUGH 36, BLOCK 7 AND ALL OF LOTS 1-18, BLOCK 8 OF ANGLETON COUNTRY ESTATES AS RECORDED IN VOLUME 11, PAGE 48 OF THE BRAZORIA COUNTY PLAT RECORDS AS CONVEYED TO PHILIP D. SHERRBROOK AND KARL M. WRIGHT AS RECORDED IN DOCUMENT NO. 2004020867 OF THE OFFICIAL PUBLIC RECORDS OF BRAZORIA COUNTY, TEXAS, BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS, WITH ALL BEARINGS BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83):

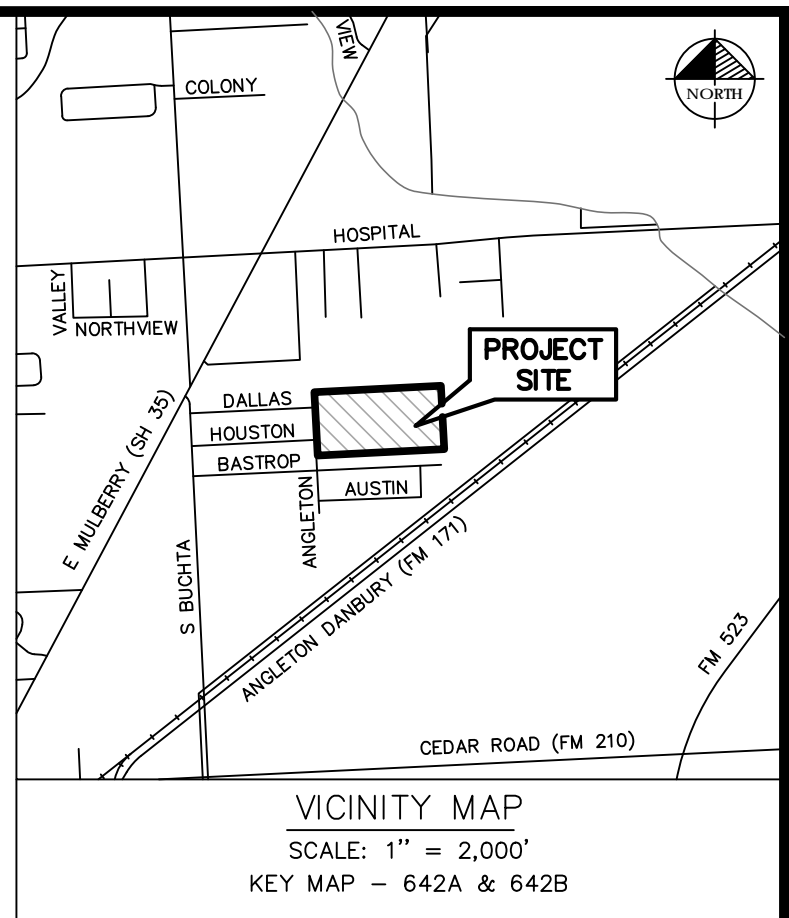
BEGINNING AT A 5/8 INCH IRON ROD WITH CAP FOUND ON THE EAST RIGHT-OF-WAY LINE OF ANGLETON BOULEVARD (63' WIDE RIGHT-OF-WAY) AS RECORDED IN VOLUME 11, PAGE 48 OF THE BRAZORIA COUNTY PLAT RECORDS, THE SOUTHWEST CORNER OF A CALLED 20,018 ACRE TRACT OF LAND CONVEYED TO ANGLETON DANBURY HOSPITAL DISTRICT AS RECORDED IN DOCUMENT NO. 2006004367 OF THE OFFICIAL PUBLIC RECORDS OF BRAZORIA COUNTY, TEXAS, THE NORTHWEST CORNER OF SAID LOT 1, BLOCK 6 OF SAID ANGLETON COUNTRY ESTATES AND THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT:

THENCE, NORTH 87 DEG. 05 MIN. 53 SEC. EAST, ALONG THE SOUTHERLY LINE OF SAID 20,018 ACRE TRACT, A DISTANCE OF 1,320.00 FEET TO THE SOUTHEAST CORNER OF SAID 20,018 ACRE TRACT, BEING ON THE WEST RIGHT-OF-WAY LINE OF AN UNIMPROVED 60 FOOT WIDE COUNTY ROAD, RECORDED IN VOLUME 29, PAGE 75 OF THE BRAZORIA COUNTY PLAT RECORDS, FROM SAID POINT A 5/8 INCH IRON ROD WITH CAP FOUND BEARS NORTH 01 DEG. 21 MIN. 41 SEC. EAST, A DISTANCE OF 0.82 FEET;

THENCE, SOUTH 02 DEG. 55 MIN. 09 SEC. EAST, ALONG THE WEST RIGHT-OF-WAY LINE OF SAID UNIMPROVED RIGHT-OF-WAY, A DISTANCE OF 660.00 FEET TO THE NORTHEAST CORNER OF A 15 FOOT WIDE DRAINAGE EASEMENT AS SHOWN IN ANGLETON COUNTRY ESTATES SECTION 2, RECORDED IN VOLUME 15, PAGE 367 OF THE BRAZORIA COUNTY PLAT RECORDS;

THENCE, SOUTH 87 DEG. 05 MIN. 53 SEC. WEST, ALONG THE NORTH LINE OF SAID ANGLETON COUNTRY ESTATES SECTION 2, PASSING AT A DISTANCE OF 14.71 FEET, A 5/8 INCH IRON ROD WITH CAP STAMPED "RPK LAND SERVICES" SET FOR THE NORTHEAST CORNER OF LOT 21, BLOCK 1, OF SAID ANGLETON COUNTRY ESTATES SECTION 2, PASSING AT A DISTANCE OF 1,504.70 FEET, A 1/2 INCH IRON ROD FOUND FOR THE NORTHWEST CORNER OF LOT 1, BLOCK 1 OF SAID ANGLETON COUNTRY ESTATES SECTION 2, AND CONTINUING IN ALL A TOTAL DISTANCE OF 1,320.00 FEET TO A 5/8 INCH IRON ROD WITH CAP STAMPED "RPK LAND SERVICES" SET OF THE EAST RIGHT-OF-WAY LINE OF SAID ANGLETON BOULEVARD.

THENCE, NORTH 02 DEG. 55 MIN. 09 SEC. WEST, ALONG THE EAST RIGHT-OF-WAY LINE OF SAID ANGLETON BOULEVARD, A DISTANCE OF 660.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 20,000 ACRES OR 871,200 SQUARE FEET OF LAND.



FINAL PLAT

LIVE OAK RANCH

A SUBDIVISION OF 20,000 AC. / 871,200 SQ. FT., BEING ALL OF LOTS 1 THROUGH 18, BLOCK 6, ALL OF LOTS 1 THROUGH 36, BLOCK 7, AND ALL OF LOTS 1 THROUGH 18, BLOCK 8, ANGLETON COUNTRY ESTATES, RECORDED IN VOL. 11, PG. 48, B.C.P.R., BEING TRACTS 45, 46, AND 51, OUT OF THE LT. TINSLEY SURVEY, ABSTRACT NO. 375, RECORDED IN BOOK D, VOL. 29, PG. 75, B.C.P.R., CITY OF ANGLETON CITY LIMITS, BRAZORIA COUNTY, TEXAS.

3 BLOCKS 1 RESERVE 65 LOTS

SEPTEMBER 2022

Update plat date to current month/year

Owners
ANGLETON LIVE OAK RANCH, LLC
a Texas limited liability company
2525 Pebble Lodge Ln.
Friendswood, TX 77546

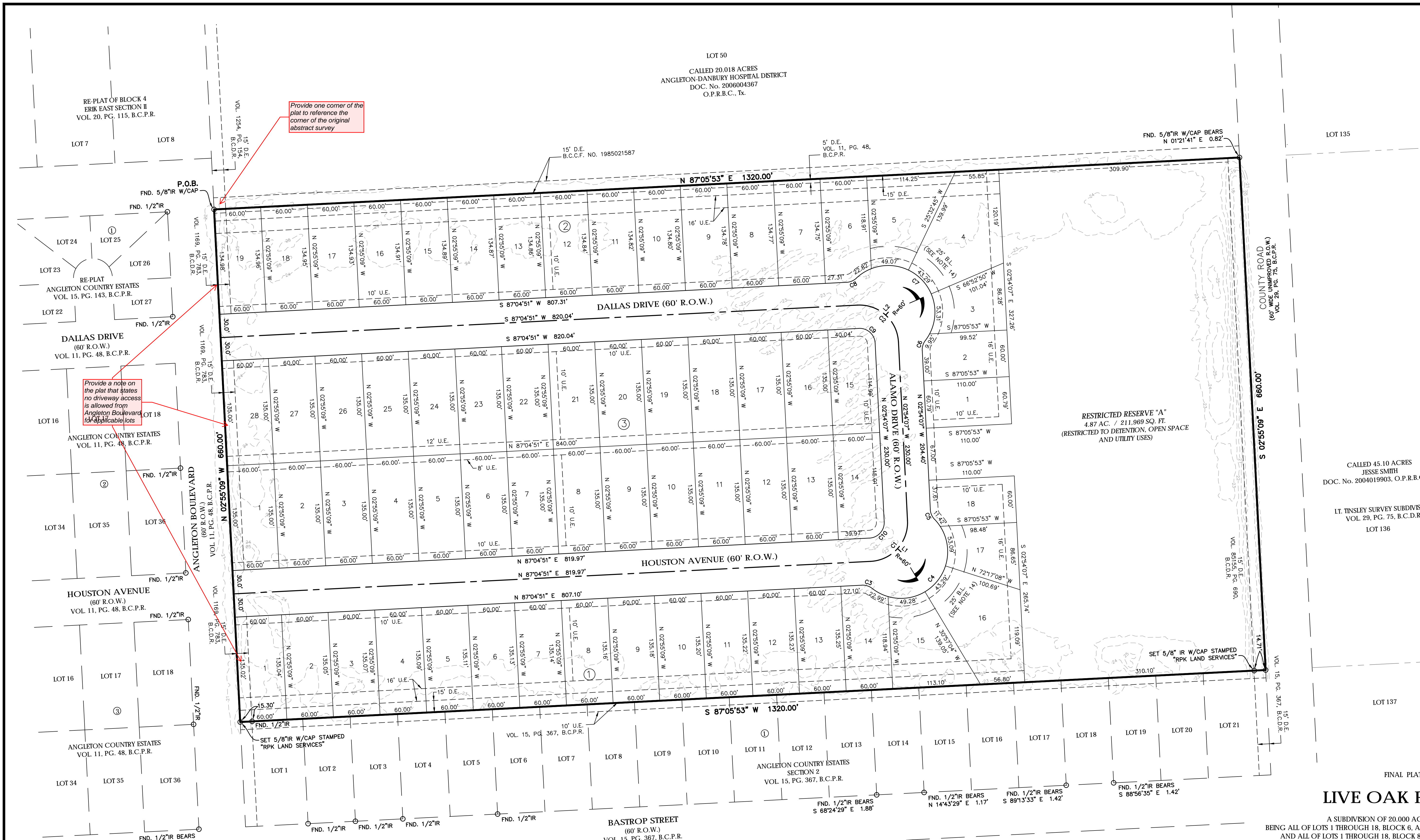
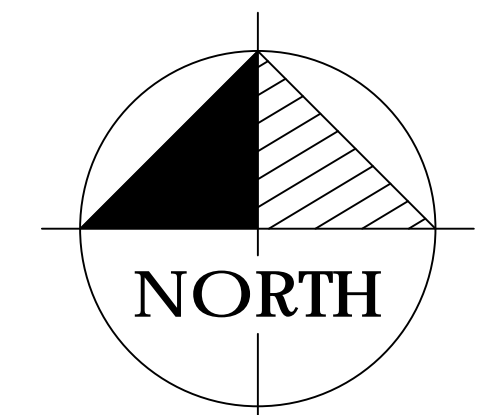
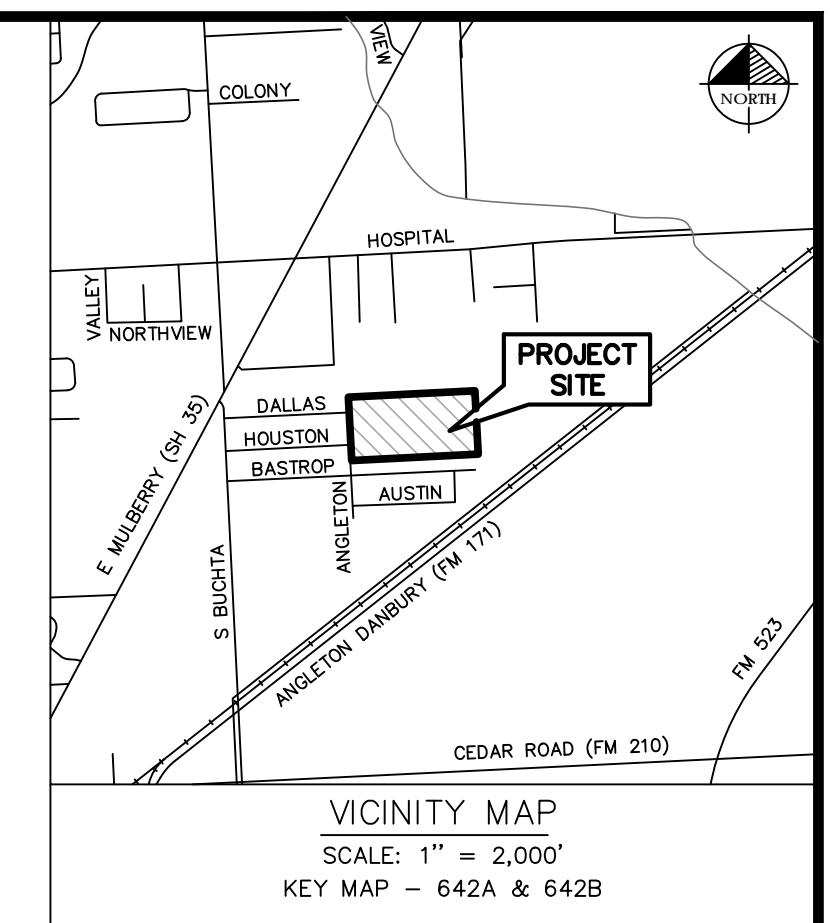
Surveyor
MILLER SURVEY
DCCM

Miller Survey | Firm Reg. No. 10047100
1760 W. Sam Houston Pkwy N.
Houston, TX 77043
713.413.1900 | millersurvey.com

Prepared By

BEACON LAND SERVICES

5301 Katy Freeway, Suite 100
Houston, TX 77007
(713) 936-0280



Provide one corner of the plat to reference the corner of the original abstract survey

Provide a note on the plat that states no driveway access is allowed from Angleton Boulevard (if applicable lots)

Update Lot Table for block 2 to match lot count on plat (Lots 1 - 19)

SEPTEMBER 2022

Update plat date to current month/year

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	50.00	78.52	70.70	N 42°05'22" E	87°58'38"
C2	50.00	78.55	70.72	N 47°54'38" W	90°01'02"
C3	20.00	11.30	11.00	S 72°23'47" E	47°58'44"
C4	60.00	180.06	119.70	N 42°05'22" E	171°56'23"
C5	20.00	14.30	14.00	N 27°23'29" W	47°58'44"
C6	20.00	14.03	13.74	N 17°11'30" E	47°11'15"
C7	60.00	178.43	119.58	N 47°54'38" W	172°23'32"
C8	20.00	14.03	13.74	S 66°50'13" W	47°11'15"
C9	20.00	31.42	28.29	S 47°54'38" E	90°01'02"
C10	20.00	31.41	28.28	S 42°05'22" W	87°58'38"

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 47°54'38" E	6.00'
L2	N 42°05'22" E	5.00'

RESERVE TABLE

RES	AC. / SQ. FT.	USE RESTRICTION
A	4.87 / 211,969	DETONATION, OPEN SPACE AND UTILITY USES

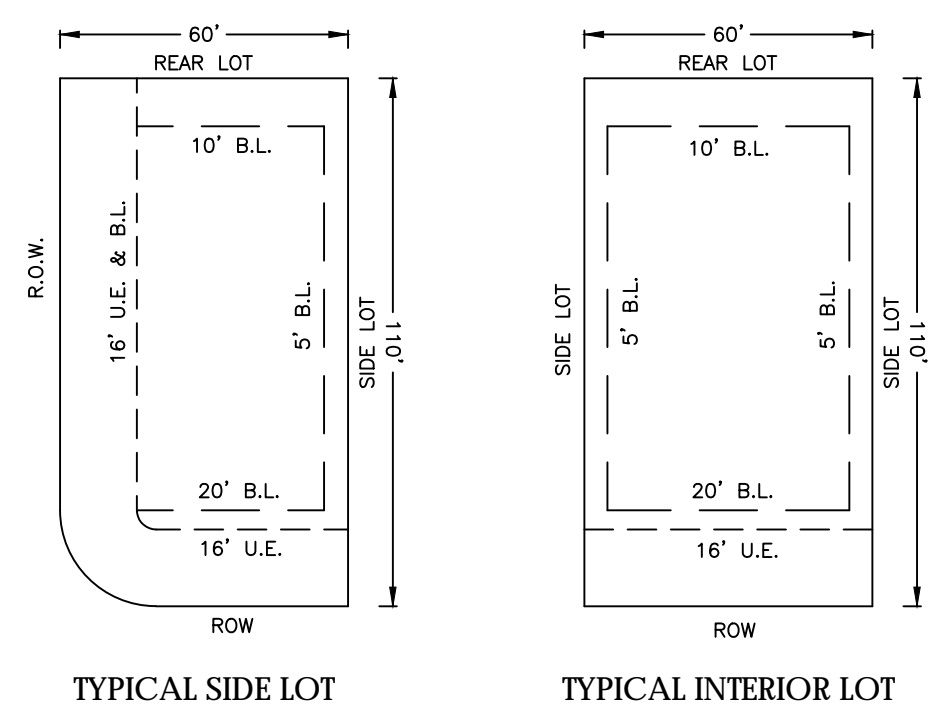
LOT AREA TABLES

BLOCK	LOT	SQ. FT.	AC.
1	1	8,102	0.1860
1	2	8,103	0.1860
1	3	8,104	0.1860
1	4	8,105	0.1861
1	5	8,106	0.1861
1	6	8,107	0.1861
1	7	8,108	0.1861
1	8	8,109	0.1862
1	9	8,110	0.1862
1	10	8,111	0.1862
1	11	8,112	0.1862
1	12	8,114	0.1862
1	13	8,115	0.1863
1	14	7,869	0.1806
1	15	9,620	0.2208
1	16	12,646	0.2903
1	17	6,404	0.1470
1	18	6,502	0.1493

BLOCK	LOT	SQ. FT.	AC.
2	19	6,687	0.1535
2	20	6,518	0.1496
2	21	6,443	0.1479
2	22	12,693	0.2914
2	23	9,698	0.2226
2	24	7,845	0.1801
2	25	8,085	0.1856
2	26	8,086	0.1856
2	27	8,088	0.1857
2	28	8,089	0.1857
2	29	8,090	0.1857
2	30	8,091	0.1857
2	31	8,092	0.1858
2	32	8,093	0.1858
2	33	8,094	0.1858
2	34	8,095	0.1858
2	35	8,096	0.1859
2	36	8,097	0.1859
2	37	8,098	0.1859

BLOCK	LOT	SQ. FT.	AC.
3	1	8,100	0.1860
3	2	8,100	0.1860
3	3	8,100	0.1860
3	4	8,100	0.1860
3	5	8,100	0.1860
3	6	8,100	0.1860
3	7	8,100	0.1860
3	8	8,100	0.1860
3	9	8,100	0.1860
3	10	8,100	0.1860
3	11	8,100	0.1860
3	12	8,100	0.1860
3	13	8,100	0.1860
3	14	8,012	0.1839

BLOCK	LOT	SQ. FT.	AC.
3	15	8,017	0.1840
3	16	8,100	0.1860
3	17	8,100	0.1860
3	18	8,100	0.1860
3	19	8,100	0.1860
3	20	8,100	0.1860
3	21	8,100	0.1860
3	22	8,100	0.1860
3	23	8,100	0.1860
3	24	8,100	0.1860
3	25	8,100	0.1860
3	26	8,100	0.1860
3	27	8,100	0.1860
3	28	8,100	0.1860



LIVE OAK RANCH
A SUBDIVISION OF 20.000 AC. / 871,200 SQ. FT.
BEING ALL OF LOTS 1 THROUGH 18, BLOCK 6, ALL OF LOTS 1 THROUGH 36, BLOCK 7,
AND ALL OF LOTS 1 THROUGH 18, BLOCK 8, ANGLETON COUNTRY ESTATES,
RECORDED IN VOL. 11, PG. 48, B.C.P.R.,
BEING TRACTS 45, 46, AND 51, OUT OF THE LT. TINSLEY SURVEY, ABSTRACT NO. 375,
RECORDED IN BOOK D, VOL. 29, PG. 75, B.C.P.R.,
CITY OF ANGLETON CITY LIMITS,
BRAZORIA COUNTY, TEXAS.

Owners
ANGLETON LIVE OAK RANCH, LLC
a Texas limited liability company
2525 Pebble Lodge Ln.
Friendswood, TX 77546

Surveyor
MILLER SURVEY
DCCM

Prepared By
BEACON LAND SERVICES

Miller Survey | Firm Reg. No. 10047100
1760 W. Sam Houston Pkwy N.
Houston, TX 77043
713.413.1900 | millersurvey.com

5301 Katy Freeway, Suite 100
Houston, TX 77007
(713) 936-0280
PROJECT NO. 5403 / SHEET 1 OF 2

BRAZORIA COUNTY

CITY OF ANGLETON

PROPOSED WATER DISTRIBUTION, WASTEWATER COLLECTION, PAVING AND STORM WATER FACILITIES TO SERVE

LIVE OAK RANCH

A SUBDIVISION OF 20.000 AC. BEING 3 BLOCKS, 1 RESERVE, & 65 LOTS

JOB NO. 21-027-00

WATERSHED: LOWER OYSTER CREEK

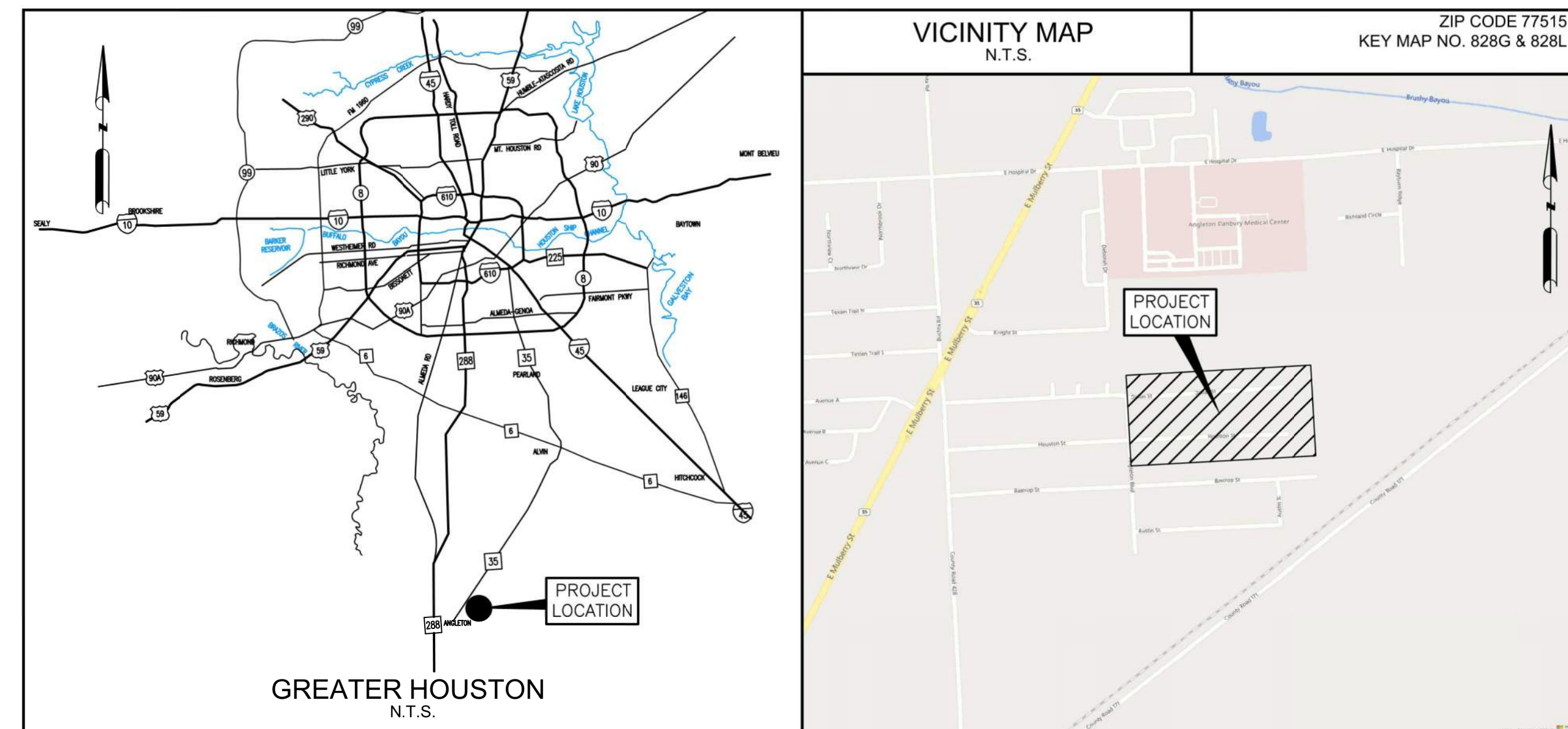
FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48039C0445K EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF THEIR SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE OF COMPLIANCE BY THE CITY ENGINEER.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF ANGLETON MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

SHEET LIST TABLE

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5	TOPOGRAPHIC SURVEY & DEMOLITION PLAN
6	STORM WATER POLLUTION PREVENTION PLAN
7	SANITARY SEWER & WATERLINE LAYOUT
8	SIGNAGE, CURB LAYOUT, & PAVEMENT MARKINGS
9	STORM SEWER LAYOUT
10	STORM CALCULATIONS
11	DETENTION POND LAYOUT
12	DETENTION POND SERVICE AREA & CALCULATIONS
13	GRADING LAYOUT
14	GRADING CROSS SECTIONS
15	TRAFFIC CONTROL PLAN LAYOUT
16	DALLAS DRIVE PLAN & PROFILE (STA. 0+00 TO 9+00)
17	ALAMO DRIVE PLAN & PROFILE (STA. 9+00 TO 14+00)
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19	ANGLETON BOULEVARD PLAN & PROFILE (STA. 0+00 TO 4+00)
20	ANGLETON BOULEVARD PLAN & PROFILE (STA. 4+00 TO 8+00)
21	OFFSITE SANITARY CONNECTION PLAN & PROFILE
22	OFFSITE WATER CONNECTION PLAN & PROFILE
23	STORM OUTFALL 1A & POND OUTFALL PLAN & PROFILE
24	PAVING DETAILS (1 OF 9)
25	PAVING DETAILS (2 OF 9)
26	PAVING DETAILS (3 OF 9)
27	PAVING DETAILS (4 OF 9)
28	PAVING DETAILS (5 OF 9)
29	PAVING DETAILS (6 OF 9)
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33	WATER DETAILS (1 OF 2)
34	WATER DETAILS (2 OF 2)
35	SANITARY DETAILS (1 OF 2)
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48	STORM WATER POLLUTION PREVENTION PLAN DETAILS (1 OF 2)
49	STORM WATER POLLUTION PREVENTION PLAN DETAILS (2 OF 2)



GENERAL NOTES:

- 1. CONTACT THE CITY'S DEVELOPMENT SERVICES DEPARTMENT AT (979)849-4364 PRIOR TO STARTING WORK TO SCHEDULE A PRE-CONSTRUCTION MEETING.
2. CONTRACTOR IS RESPONSIBLE FOR HAVING ALL BURIED UTILITIES IDENTIFIED, PROTECTED, REPLACED AND/OR PROPERLY REPAIRED IF DAMAGED. REPAIRS/REPLACEMENT SHALL BE AT CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL OBTAIN AND MAINTAIN ON SITE ALL APPLICABLE PERMITS AND AN APPROVED COPY OF THE PLANS AND SPECIFICATIONS. NOTIFY THE CITY'S DEVELOPMENT SERVICES DEPARTMENT 48 HOURS PRIOR TO COMMENCEMENT OF WORKING HOURS.

LIME SUBGRADE:

- 1. LIME SHALL BE A "SLURRY" AS PER TxDOT 260 UNLESS SPECIFICALLY RECOMMENDED BY THE GEOLOGICAL ENGINEER AND APPROVED BY THE CITY ENGINEER.
2. ALL LIME SLURRIES SHALL BE FURNISHED AT OR ABOVE THE MINIMUM "DRY SOLIDS" CONTENTS AS APPROVED BY THE ENGINEER.
3. SUBGRADES SHALL BE STABILIZED WITH A MINIMUM SIX PERCENT (6%) LIME BY WEIGHT, EIGHT INCHES (8") THICK THE INITIAL MIX TO REDUCE PLASTICITY INDEX (PI) TO 20 OR LESS AS DETERMINED BY THE LIME SERIES. THE FINAL MIX SHALL BE AT SIX INCHES (6") THICK.

CONCRETE/PAVING NOTES:

- 1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND AUTHORIZATION REQUIRED BY CITY OF ANGLETON.
2. CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO CONSTRUCTION AND WILL REPAIR OR REPLACE ANY DAMAGE AT CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL PROTECT WATER, SEWER, AND DRAINAGE FACILITIES AND WILL REPLACE ANY DAMAGED FACILITIES AT HIS OWN EXPENSE. ALL MANHOLES AND VALVES WITHIN THE PAVEMENT AREA SHALL BE ADJUSTED TO FINISH GRADE BY THE PAVING CONTRACTOR WITH THE USE OF APPROVED BLOCKOUTS.

STABILIZED CRUSHED CONCRETE:

- 1. TEST AND ANALYSIS OF AGGREGATE AND BINDER MATERIALS WILL BE PERFORMED IN ACCORDANCE WITH ASTM 1557 AND ASTM 4318. CEMENT SHALL BE ASTM 150 TYPE I.
2. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES (1993) AND ITS LATEST REVISIONS AND CITY OF ANGLETON STANDARDS.
3. TIME COAT SHALL BE ONE OR EPR-1 PRIME.
4. DESIGN FOR A MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 200 PSI IN 48 HRS. PROVIDE MINIMUM CEMENT CONTENT OF 2 SK PER TON OF MIX. CEMENT CONTENT MAY BE RAISED AT THE CONTRACTOR'S EXPENSE IF TESTS ON FIELD SAMPLES FALL BELOW 200 PSI.

CEMENT STABILIZED SAND:

- 1. ALL STABILIZED SAND SHALL BE A MINIMUM OF 1.5 SK PER CUBIC YARD.
2. CEMENT STABILIZED SAND (C.S.S.) SHALL ACHIEVE A MINIMUM OF 100 PSI WITHIN 48 HOURS.
3. A MINIMUM OF 2 RANDOM SAMPLES SHALL BE TAKEN EACH WEEK. (FOR SMALLER PROJECTS, ONE SAMPLE MAY SUFFICE WITH CITY OF ANGLETON APPROVAL). THE CITY OF ANGLETON RESERVES THE RIGHT TO REQUIRE ADDITIONAL TESTS, AT THE CONTRACTOR'S EXPENSE.
4. ANY C.S.S. NOT MEETING CITY OF ANGLETON STANDARDS SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

BANK SAND:

- 1. BANK SAND IS DEFINED AS A WELL-GRADED SAND, FREE OF SLIT, CLAY, FRIABLE OR SOLUBLE MATERIALS AND ORGANIC MATTER, MEETING THE UNIFIED SOILS CLASSIFICATIONS SYSTEM GROUP SYMBOL SW CRITERIA WITH A PLASTICITY INDEX OF 4 OR LESS.

STORM SEWER NOTES:

- 1. STORM SEWERS SHALL BE DESIGNED AND CONSTRUCTED WITH CITY OF ANGLETON'S STANDARD CONSTRUCTION SPECIFICATIONS AND IN ACCORDANCE WITH CITY OF ANGLETON STANDARD DETAILS SHEET AND LATEST REVISIONS.
2. ALL PIPE STORM SEWERS SHALL BE INSTALLED, BEDDED, AND BACKFILLED IN ACCORDANCE WITH CITY OF ANGLETON STANDARD DETAILS SHEET AND LATEST REVISIONS.
3. ALL CEMENT STABILIZED SAND (C.S.S.) SHALL BE 1-1/2 SK PER CUBIC YD. AND MEET MINIMUM C.S.S. STANDARDS COMPACTED TO 95%.

SANITARY SEWER NOTES:

- 1. SANITARY SEWERS, FORCE MAINS, MANHOLES, LIFT STATIONS AND WASTEWATER TREATMENT PLANTS SHALL BE DESIGNED AND CONSTRUCTED AS PER THE REQUIREMENTS OF THE CITY OF ANGLETON STANDARD CONSTRUCTION DETAILS SHEETS AND AS PER THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY DESIGN CRITERIA FOR SEWERAGE SYSTEMS.
2. ALL MATERIALS AND PRODUCTS USED IN THE CONSTRUCTION OF SANITARY SEWERS, FORCE MAINS, MANHOLES, LIFT STATIONS AND WASTEWATER TREATMENT PLANTS SHALL COMPLY WITH THE CITY OF ANGLETON DESIGN STANDARDS AND THE CURRENT APPROVED PRODUCTS LIST.

DEBRIS AND TRASH NOTES:

- 1. ALL WASTE SOURCES AND STORAGE AREAS SHALL BE LOCATED A MINIMUM OF 50 FEET AWAY FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS AND OTHER WATERS, IF THE SITE CONFIGURATION PROVIDES SUFFICIENT SPACE TO DO SO.
2. CONSTRUCTION WASTE AND TRASH SHALL BE STORED IN A MANNER THAT MINIMIZES ITS EXPOSURE TO PRECIPITATION AND STORMWATER RUNOFF.
3. WHENEVER POSSIBLE, MINIMIZE PRODUCTION OF DEBRIS AND TRASH.

WATER DISTRIBUTION NOTES:

- 1. WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL BE DESIGNED AND CONSTRUCTED AS PER REQUIREMENTS OF THE CITY OF ANGLETON DESIGN STANDARDS AND CORRESPONDING STANDARD CONSTRUCTION DETAILS SHEETS AND AS PER THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY DESIGN CRITERIA FOR SEWERAGE SYSTEMS.
2. ALL MATERIALS AND PRODUCTS USED IN THE CONSTRUCTION OF WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL COMPLY WITH THE CITY OF ANGLETON DESIGN STANDARDS AND THE CURRENT APPROVED PRODUCTS LIST AS MAINTAINED BY THE CITY'S DEVELOPMENT SERVICES DEPARTMENT.

HYPER-CHLORINATED WATER NOTES:

- 1. HYPER-CHLORINATED WATER SHALL NOT BE DISCHARGED TO THE STORM SEWER OR DRAINAGE SYSTEM UNLESS THE CHLORINE CONCENTRATION IS REDUCED TO 4 PPM OR LESS BY CHEMICALLY TREATING THE DE-CHLORINATE OR BY ONSITE NETION UNTIL NATURAL ATTENUATION OCCURS.
2. ALL DISCHARGES OF HYPER-CHLORINATED WATER SHALL BE DIRECTED TO VELOCITY DISSIPATION DEVICES.
3. CHLORINE CAN BURN VEGETATION, SO IT SHOULD NOT BE USED TO WATER VEGETATION THAT IS BEING MAINTAINED OR STABILIZED. VEGETATED FILTERS OR BUFFERS, OR OTHER VEGETATION TO BE PRESERVED.

SPILL AND LEAK RESPONSE NOTES:

- 1. RECORDS OF RELEASES THAT EXCEED THE REPORTABLE QUANTITY (RQ) FOR OIL AND HAZARDOUS SUBSTANCES SHALL BE MAINTAINED IN ACCORDANCE WITH THE FEDERAL AND STATE REGULATIONS.
2. EMERGENCY CONTACT INFORMATION AND SPILL RESPONSE PROCEDURES SHALL BE POSTED IN A READILY AVAILABLE REA FOR ACCESS BY ALL EMPLOYEES AND SUBCONTRACTORS.
3. SPILL CONTAINMENT KITS SHOULD BE MAINTAINED FOR PETROLEUM PRODUCTS AND OTHER CHEMICALLY UNUSUALLY ONSITE. MATERIALS IN KITS SHOULD BE BASED ON CONTAINMENT GUIDELINES IN THE MATERIAL SAFETY AND DATA SHEETS (MSDS) FOR THE SUBSTANCE MOST FREQUENTLY ONSITE.

SANITARY WASTE NOTES:

- 1. THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE NUMBER OF PORTABLE TOILETS BASED ON THE NUMBER OF EMPLOYEES USING THE TOILETS AND THE HOURS THEY WILL WORK.
2. SANITARY FACILITIES SHALL BE PLACED ON A MINIMUM OF 50 FEET AWAY FROM STORM DRAIN INLETS, CONVEYANCE, CHANNELS OR SURFACE WATERS, IF UNABLE TO MEET THE 50 FOOT REQUIREMENT DUE TO SITE CONFIGURATION, PORTABLE TOILETS SHALL BE A MINIMUM OF 20 FEET AWAY FROM STORM DRAIN INLETS, CONVEYANCE CHANNELS OR SURFACE WATER AND SECONDARY CONTAINMENT SHALL BE PROVIDED IN CASE OF SPILLS.
3. THE LOCATION OF THE PORTABLE TOILETS SHALL BE ACCESSIBLE TO MAINTENANCE TRUCKS WITHOUT DAMAGING EROSION AND SEDIMENT CONTROLS OR CAUSING EROSION OR TRACKING PROBLEMS.

SUBGRADE STABILIZATION NOTES:

- 1. MINIMIZE THE DISCHARGE OF THE CHEMICAL STABILIZERS BY THE CONTRACTOR LIMITING THE AMOUNT OF STABILIZING AGENT ONSITE TO THAT WHICH CAN BE THOROUGHLY MIXED AND COMPACTED BY THE END OF EACH WORKDAY.
2. STABILIZING AGENT SHALL BE APPLIED AT RATES THAT RESULT IN NO RUN OFF.
3. STABILIZATION SHALL NOT OCCUR IMMEDIATELY BEFORE AND DURING RAINFALL EVENTS.

BENCHMARK(S) / FLOODPLAIN

BENCHMARK ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.
TEMPORARY BENCHMARK-A: BENCHM. BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERSECTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAV888, 2001 ADJUSTMENT)
TEMPORARY BENCHMARK-B: TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERSECTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAV888, 2001 ADJUSTMENT)

FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 4803004048E, EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO BE WITHIN UNSHADED ZONE "X".

Table with 3 columns: APPR., REVISION, DATE

ODYSSEY ENGINEERING GROUP logo and contact information: 2500 Tanglewilde Street, Suite 300 Houston, Texas 77063 t: 281.306.0240 | www.odysseyeg.com TPBE No. F-17637



CITY OF ANGLETON BRAZORIA COUNTY, TEXAS

121 S Velasco, Angleton, Texas 77515
CITY OF ANGLETON LIVE OAK RANCH

GENERAL NOTES (1 OF 2)

Table with columns: SURV., DATE, SHEET, JOB NO., IMAGE NO., SHEET. Includes drawing date 02/22/23, sheet 2 of 49, and job number 21-027-00.

02:14:02Z:\00\Drawings\21027000\GEN-GENERAL NOTES.dwg (Mar 21, 2023, 11:46am) Edited by: NilsaBogdan

GENERAL CONSTRUCTION NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ANGLETON CONSTRUCTION MANUAL (ACM) AND LAND DEVELOPMENT CODE, HEREAFTER REFERRED TO AS THE ACM AND THE LDC.
- APPROVAL OF THESE CONSTRUCTION PLANS DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, ADEQUACY, AND COMPLIANCE OF THE SUBMITTED PLANS.
- ALL RESPONSIBILITY FOR THE RESTS ON DESIGN ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY MUST RELY ON THE ADEQUACY AND ACCURACY OF THE DESIGN ENGINEER.
- DESIGNS SHALL BE IN COMPLETE COMPLIANCE WITH THE LDC AND THE ACM. ANY WAIVER, DEVIATION, VARIANCE, OR EXCEPTION FROM ANY SPECIFIC REQUIREMENT(S) OF THE LDC OR ACM THAT WERE NOT EXPRESSLY REQUESTED WHEN PLANS ARE SUBMITTED, SHALL NOT BE CONSTRUED TO HAVE BEEN GRANTED IF PLANS ARE APPROVED. IT IS THE RESPONSIBILITY OF THE ENGINEER TO MAKE SUCH A WAIVER PROACTIVELY WHEN PLANS ARE SUBMITTED.
- A MINIMUM OF TWO EXISTING BENCHMARKS SHOULD BE SHOWN ON THE PLANS. IN ADDITION, TWO PERMANENT BENCHMARKS PER SUBDIVISION SHALL BE INSTALLED IN EACH NEW SUBDIVISION TO INCLUDE DESCRIPTION, LOCATION, AND ELEVATION AND TIE TO CITY STANDARDS.
- CAST BRONZE SURVEY MARKERS SHALL BE PLACED IN CONCRETE IN PERMANENT, ACCESSIBLE LOCATIONS AT THE TIME OF CONSTRUCTION. THE LOCATIONS OF THE MARKERS SHALL BE INDICATED ON THE CONSTRUCTION PLANS. A MINIMUM OF ONE MARKER SHALL BE PLACED FOR EACH 20 ACRES OF THE PROJECT.
- PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE WITH THE CITY, THE DEVELOPER'S CONSULTING ENGINEER, CONTRACTOR, AND ANY OTHER AFFECTED PARTIES. THE CITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE TIME OF THE CONFERENCE AND 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE THE CITY A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
- BARRICADES, BUILT TO CITY SPECIFICATIONS, SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB SAFETY.
- IF BLASTING IS PLANNED, A BLASTING PERMIT MUST BE SECURED PRIOR TO COMMENCEMENT OF ANY BLASTING.
- ANY EXISTING PAVEMENT, CURBS, AND/ OR SIDEWALKS DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE BEFORE ACCEPTANCE OF THE SUBDIVISION.
- THE LOCATION OF ANY WATER OR WASTEWATER LINES SHOWN ON THE PLANS MUST BE VERIFIED BY THE PUBLIC WORKS DEPARTMENT.
- USE ONE CALL UTILITY SYSTEM: DIAL 1-800-344-8377, 48 HOURS BEFORE YOU DIG.
- ALL STORM SEWER PIPES TO BE CLASS III RCP UNLESS NOTED OTHERWISE.

CONSTRUCTION SEQUENCING:

- CALL THE CITY 48 HOURS PRIOR TO BEGINNING ANY WORK AND SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE CITY AND ALL AFFECTED UTILITY PROVIDERS, THE GENERAL CONTRACTOR, THE DEVELOPER AND THE DEVELOPER'S ENGINEER.
- OBTAIN A DEVELOPMENT PERMIT FROM THE CITY.
- PROVIDE THE CITY WITH EVIDENCE ALL TCEQ LICENSES AND REQUIREMENTS ARE UP TO DATE.
- INSTALL TEMPORARY EROSION CONTROLS AND TREE PROTECTION FENCING PRIOR TO ANY CLEARING AND GRUBBING. NOTIFY THE CITY WHEN INSTALLED.
- ROUGH-CUT ALL REQUIRED OR NECESSARY PONDS, EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF ANY EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A LOW-LEVEL OUTLET AND AN EMERGENCY OVERFLOW MEETING THE REQUIREMENTS OF THE LDC. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL FINAL RESTORATION IS ACHIEVED.
- DELIVER APPROVED ROUGH-CUT SHEETS TO THE CITY ENGINEER PRIOR TO CLEARING AND GRUBBING.
- ROUGH GRADE STREETS. NO DEVELOPMENT OR EMBANKMENT WILL BE PERMITTED AT THIS TIME.
- INSTALL ALL UTILITIES TO BE LOCATED UNDER THE PROPOSED PAVEMENT OR WITHIN THE ROAD RIGHT-OF-WAY.
- DELIVER STORM SEWER CUT SHEETS TO THE CITY ENGINEER.
- BEGIN INSTALLATION OF STORM SEWER LINES. UPON COMPLETION, RESTORE AS MUCH DISTURBED AREA AS POSSIBLE, PARTICULARLY CHANNELS AND LARGE OPEN AREAS.
- DELIVER FINAL GRADE CUT SHEETS TO THE CITY ENGINEER.
- RE-GRADE STREETS TO SUB-GRADE.
- ENSURE THAT UNDERGROUND UTILITY CROSSINGS ARE COMPLETED. LAY 1ST-COURSE BASE MATERIAL ON STREETS.
- INSTALL CURB AND GUTTER.
- LAY FINAL BASE COURSE ON ALL STREETS.
- LAY ASPHALT.
- COMPLETE FINAL GRADING AND RESTORATION OF DETENTION, SEDIMENTATION / FILTRATION PONDS.
- COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.
- REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROLS.
- COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED.

SANDBLASTING WASTE NOTES:

- THE CONTRACTOR SHOULD BE REQUIRED TO DESIGNATE THE SITE SUPERINTENDENT, FOREMAN, OR OTHER PERSON WHO IS RESPONSIBLE FOR SANDBLASTING TO ALSO BE RESPONSIBLE FOR SANDBLASTING WASTE MANAGEMENT.
- PROHIBIT THE DISCHARGE OF SANDBLASTING WASTE.
- USE ONLY INERT, NON-DEGRADABLE SANDBLAST MEDIA.
- USE APPROPRIATE EQUIPMENT FOR THE JOB; DO NOT OVER-BLAST.
- WHENEVER POSSIBLE, BLAST IN A DOWNWARD DIRECTION.
- CEASE BLASTING ACTIVITIES IN HIGH WINDS OR IF WIND DIRECTION COULD TRANSPORT GRIT TO DRAINAGE FACILITIES.
- INSTALL DUST SHIELDING AROUND SANDBLASTING AREAS.
- COLLECT AND DISPOSE OF ALL SPENT SANDBLAST GRIT, USE DUST CONTAINMENT FABRICS AND DUST COLLECTION HOPPERS AND BARRELS.
- NON-HAZARDOUS SANDBLAST GRIT MAY BE DISPOSED IN PERMITTED CONSTRUCTION DEBRIS LANDFILLS OR PERMITTED SANITARY LANDFILLS.
- IF SANDBLAST MEDIA CANNOT BE FULLY CONTAINED, CONSTRUCT SEDIMENT TRAPS DOWNSTREAM FROM LASTING AREA WHERE APPROPRIATE.
- USE SAND FENCING WHERE APPROPRIATE IN AREAS WHERE BLAST MEDIA CANNOT BE FULLY CONTAINED.
- IF NECESSARY, INSTALL MISTING EQUIPMENT TO REMOVE SANDBLAST GRIT FROM THE AIR PREVENT RUNOFF FROM MISTING OPERATIONS FROM ENTERING DRAINAGE SYSTEMS.
- USE VACUUM GRIT COLLECTION SYSTEMS WHERE POSSIBLE.
- KEEP RECORDS OF SANDBLASTING MATERIALS, PROCEDURES, AND WEATHER CONDITIONS ON A DAILY BASIS.
- TAKE ALL REASONABLE PRECAUTIONS TO ENSURE THAT SANDBLASTING GRIT IS CONTAINED AND KEPT AWAY FROM DRAINAGE STRUCTURES.
- SAND BLASTING MEDIA SHOULD ALWAYS BE STORED UNDER COVER AWAY FROM DRAINAGE STRUCTURES.
- ENSURE THAT STORED MEDIA OR GRIT IS NOT SUBJECTED TO TRANSPORT BY WIND.
- ENSURE THAT ALL SANDBLASTING EQUIPMENT AND STORAGE CONTAINERS COMPLY WITH CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS.
- CAPTURE AND TREAT RUNOFF, WHICH COMES INTO CONTACT WITH SANDBLASTING MATERIALS OR WASTE.

CONCRETE SAWCUTTING WASTE NOTES:

- DURING SAWCUTTING OPERATIONS, THE SLURRY AND CUTTINGS SHALL BE CONTINUOUSLY VACUUMED OR OTHERWISE RECOVERED AND NOT BE ALLOWED TO DISCHARGE FROM THE SITE.
- IF THE PAVEMENT TO BE CUT IS NEAR A STORM DRAIN INLET, THE INLET SHALL BE BLOCKED BY SANDBAGS OR EQUIVALENT TEMPORARY MEASURES TO PREVENT THE SLURRY FROM ENTERING THE INLET. REMOVE THE SANDBAGS IMMEDIATELY AFTER COMPLETING SAWCUTTING OPERATIONS, SO THEY DO NOT CAUSE DRAINAGE PROBLEMS DURING STORM EVENTS.
- SLURRY AND CUTTINGS SHALL NOT BE ALLOWED TO REMAIN ON THE PAVEMENT TO DRY OUT DEVELOP PRE-DETERMINED, SAFE SLURRY DISPOSAL AREAS.
- COLLECTED SLURRY AND CUTTINGS SHOULD BE IMMEDIATELY HAULED FROM THE SITE FOR DISPOSAL AT A WASTE FACILITY. IF THIS IS NOT POSSIBLE, THE SLURRY AND CUTTINGS SHALL BE DISCHARGED INTO ONSITE CONTAINMENT.
- THE ONSITE CONTAINMENT MAY BE EXCAVATED OR BERMED PIT LINED WITH PLASTIC MINIMUM OF 10 MILLIMETERS THICK. IF THE PROJECT INCLUDES PLACEMENT OF NEW CONCRETE, SLURRY FROM SAWCUTTING MAY BE DISPOSED OF IN FACILITIES DESIGNATED FOR THE WASHOUT OF CONCRETE TRUCKS INSTEAD CONSTRUCTING A SEPARATE CONTAINMENT.
- THE CONTAINMENT SHALL BE LOCATED A MINIMUM OF 50 FEET AWAY FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS, AND OTHER WATERS, IF THE SITE CONFIGURATION PROVIDES SUFFICIENT SPACE TO DO SO. IN NO CASE SHALL THE COLLECTION AREA BE CLOSER THAN 20 FEET FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS AND OTHER WATERS.
- SEVERAL, PORTABLE, PRE-FABRICATED, CONCRETE WASHOUT, COLLECTION BASINS ARE COMMERCIALY AVAILABLE AND ARE AN ACCEPTABLE ALTERNATIVE TO AN ONSITE CONTAINMENT PIT.
- REMOVE WASTER CONCRETE WHEN THE CONTAINMENT IS HALF FULL. ALWAYS MAINTAIN A MINIMUM OF ONE FOOT FREEBOARD.
- ONSITE EVAPORATION OF SLURRY WATER AND RECYCLING OF THE CONCRETE WASTE IS THE PREFERRED DISPOSAL METHOD. WHEN THIS IS NOT FEASIBLE, DISCHARGE FROM THE COLLECTION AREA SHALL ONLY BE ALLOWED IF A PASSIVE TREATMENT SYSTEM IS USED TO REMOVE THE FINES. MECHANICAL MIXING IS REQUIRED UNTIL THE COLLECTION AREA. THE pH MUST BE TESTED, AND DISCHARGED IS ALLOWED IN IF THE pH DOES NOT EXCEED 8.0. THE pH MAY BE LOWERED BY ADDING SULFURIC ACID TO THE SLURRY WATER.
- CARE SHALL BE EXERCISED WHEN TREATING THE SLURRY WATER FOR DISCHARGE. MONITORING MUST BE IMPLEMENTED TO VERIFY THAT DISCHARGES FROM THE COLLECTION AREA DO NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.
- GEOTEXTILE FABRICS SUCH AS THOSE USED FOR SILT FENCE SHOULD NOT BE USED TO CONTROL SAWCUTTING WASTE, SINCE THE GRAIN SIZE IS SIGNIFICANTLY SMALLER THAN THE APPARENT OPENING SIZE OF THE FABRIC.

T.C.E.Q. WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

- THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM, CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS."
- ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI [§290.44(A)(1)].
- PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS [§290.44(A)(2)].
- NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY [§290.44(A)(3)].
- ALL WATER LINE CROSSINGS OF WASTEWATER MAINS SHALL BE PERPENDICULAR [§290.44(E)(4)(B)].
- WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE [§290.44(A)(4)].
- THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES IS 0.25 PERCENT [§290.44(B)].
- THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES WITH VENT OPENINGS TO THE ATMOSPHERE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT [§290.44(D)(1)].
- THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION [§290.44(F)(1)].
- WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATERLINE SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED [§290.44(F)(2)].
- PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.
 - THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

$$Q = \frac{LD \cdot P}{148,000}$$

WHERE:

- Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).
- THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

$$Q = \frac{SD \cdot P}{148,000}$$

WHERE:

- Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

- THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E)(1)-(4).
- THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT [§290.44(E)(5)].
- FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION [§290.44(E)(6)].
- SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE [§290.44(E)(7)].
- WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS [§290.44(E)(8)].
- THE CONTRACTOR SHALL DISINFECT THE NEW WATERLINES IN ACCORDANCE WITH AWWA STANDARD C-651-14 OR MOST RECENT, THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER [§290.44(F)(3)].
- DECHLORINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT.

REV.2/2019

BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD88 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.

TEMPORARY BENCHMARK-A:
TEMPORARY BENCHMARK "A" BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.66 FEET, (NAVD88, 2001 ADJUSTMENT)

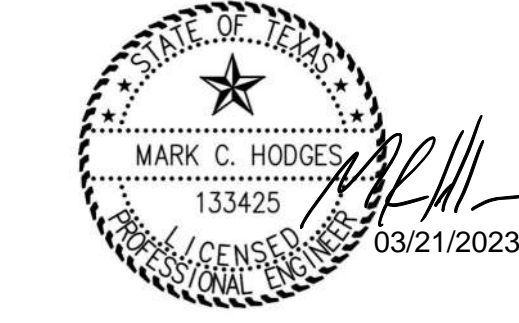
TEMPORARY BENCHMARK-B:
TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD88, 2001 ADJUSTMENT)

FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C048K EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE



2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

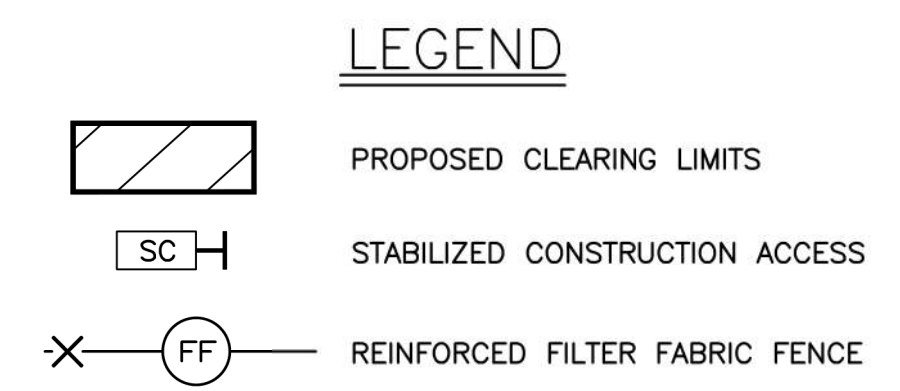
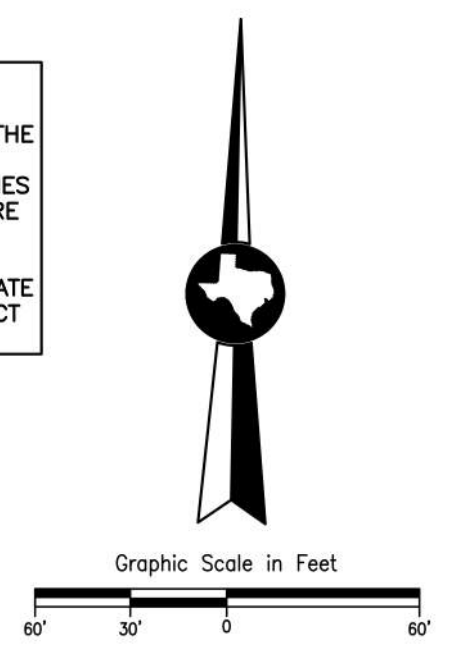
**CITY OF ANGLETON
LIVE OAK RANCH**

**GENERAL NOTES
(2 OF 2)**

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	
DWIN	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		
SCALE:					
HORIZ.	N/A				
VERT.	N/A				
				SHEET	3 OF 49 SHEETS

C:\21-027-00\Drawings\General\2102700-GE-GENERAL NOTES.dwg Mar 21, 2023, 11:46am Edited by: NMacgregal

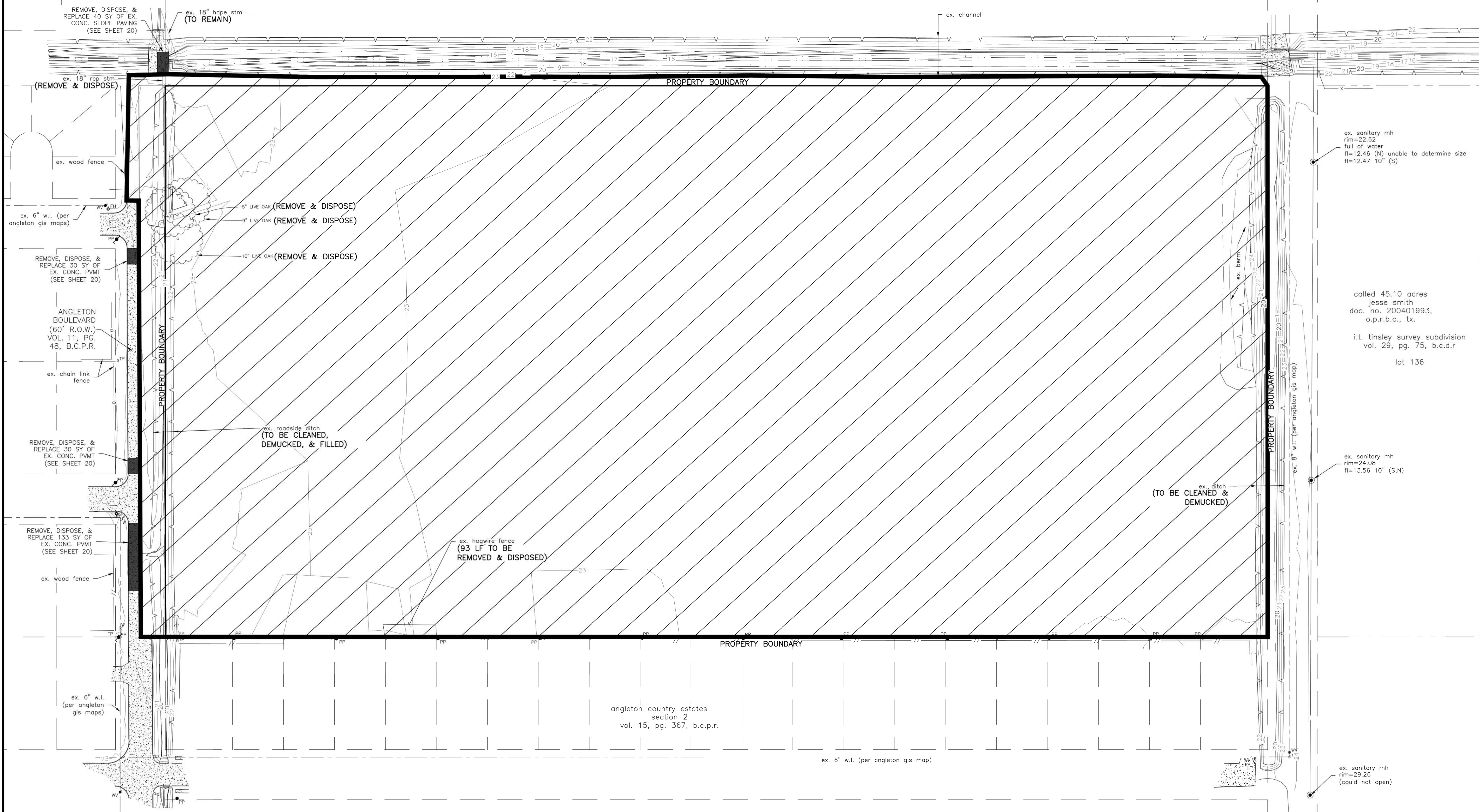
WARNING:
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 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES IN THE VICINITY OF THE PROJECT PRIOR TO BEGINNING CONSTRUCTION.



GENERAL NOTES:

- CONTRACTOR SHALL FIELD VERIFY FLOW-LINES OF ALL EXISTING SANITARY SEWER, STORM SEWER, AND WATER LINES WHERE TYING IN.

lot 50
 called 20.018 acres
 angleton-danbury hospital district
 doc no. 2006004367
 o.p.r.b.c., tx.



BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
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TEMPORARY BENCHMARK-B:
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FLOODPLAIN:
 ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 480304040K EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseyeg.com
 TBPE No. F-17637

**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**
 121 S Velasco,
 Angleton, Texas 77515

**CITY OF ANGLETON
 LIVE OAK RANCH**

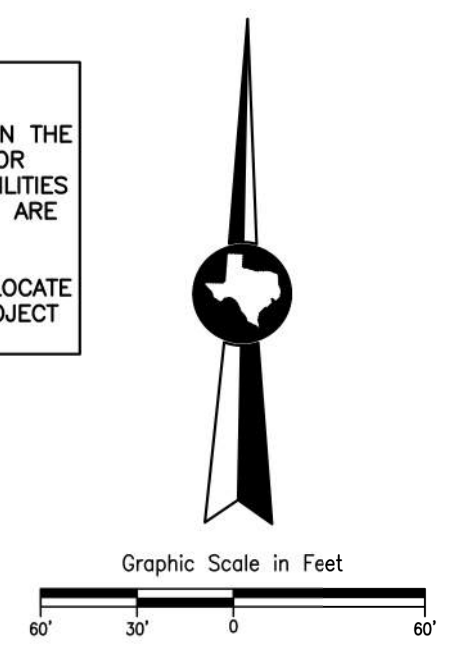
TOPOGRAPHIC SURVEY & DEMOLITION PLAN

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
DWN. NPM. DATE 3/23	
CHKD. MCH. DATE 3/23	
APPR. MCH. DATE 3/23	
SCALE: HORIZ. 1" = 60'	SHEET 5 OF 49 SHEETS
VERT. N/A	

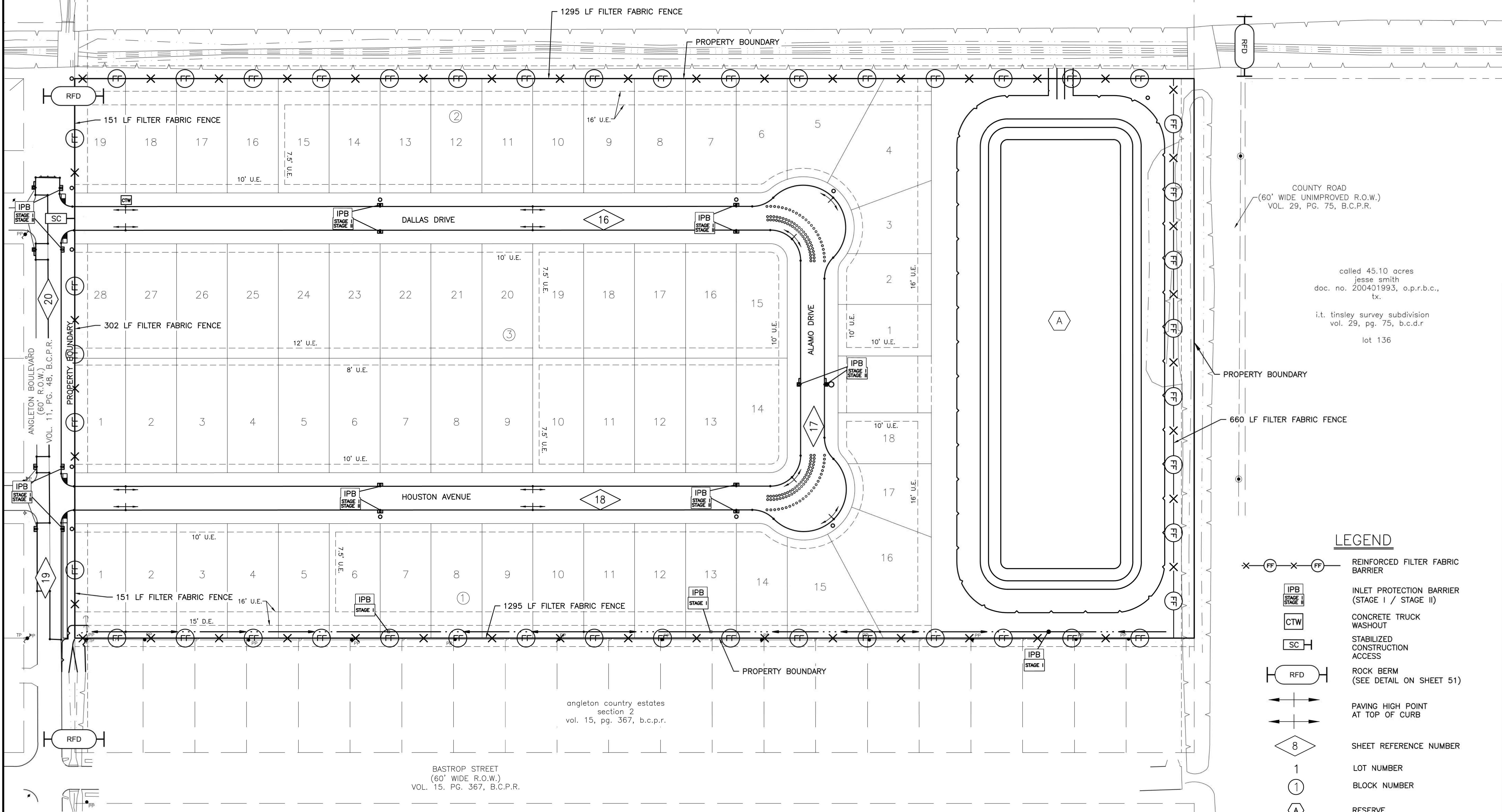
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lot 50
 called 20.018 acres
 angleton-danbury hospital
 district
 doc no. 2006004367
 o.p.r.b.c., tx.

WARNING:
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- SWPPP NOTES**
- SEE SHEET 48-49 OF 49 FOR SWPPP DETAILS.
 - REINFORCED FILTER FENCE TO BE PLACED 2-FT BEHIND BACK OF CURB.
 - SEE SHEET 32 OF 49 FOR SIGNAGE DETAILS.



COUNTY ROAD
 (60' WIDE UNIMPROVED R.O.W.)
 VOL. 29, PG. 75, B.C.P.R.

called 45.10 acres
 jesse smith
 doc. no. 200401993, o.p.r.b.c., tx.
 i.t. tinsley survey subdivision
 vol. 29, pg. 75, b.c.d.r.
 lot 136

ANGLETON BOULEVARD
 (60' R.O.W.)
 VOL. 11, PG. 48, B.C.P.R.

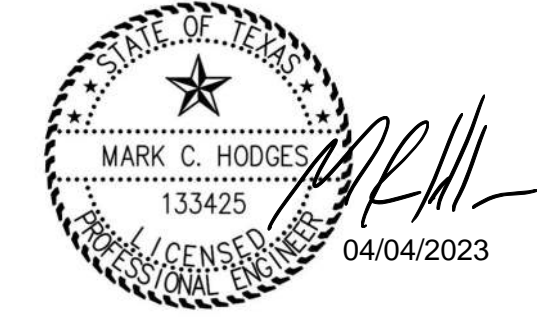
BASTROP STREET
 (60' WIDE R.O.W.)
 VOL. 15, PG. 367, B.C.P.R.

angleton country estates
 section 2
 vol. 15, pg. 367, b.c.p.r.

- LEGEND**
- × FF × FF REINFORCED FILTER FABRIC BARRIER
 - IPB STAGE I / STAGE II INLET PROTECTION BARRIER (STAGE I / STAGE II)
 - CTW CONCRETE TRUCK WASHOUT
 - SC-H STABILIZED CONSTRUCTION ACCESS
 - RFD ROCK BERM (SEE DETAIL ON SHEET 51)
 - PAVING HIGH POINT AT TOP OF CURB
 - 8 SHEET REFERENCE NUMBER
 - 1 LOT NUMBER
 - ① BLOCK NUMBER
 - A RESERVE
 - ♀ STREET SIGN NAME CHANGE ONLY (SEE SHEET 8)
 - ♂ TRAFFIC SIGN (SEE SHEET 8)

BENCHMARK(S) / FLOODPLAIN		
BENCHMARK: ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.		
TEMPORARY BENCHMARK "A": TEMPORARY BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.48 FEET, (NAV898, 2001 ADJUSTMENT)		
TEMPORARY BENCHMARK "B": TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAV898, 2001 ADJUSTMENT)		
FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 4835030400, EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".		
APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseyeg.com
 TBPE No. F-17637



**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**

121 S Velasco,
 Angleton, Texas 77515

**CITY OF ANGLETON
 LIVE OAK RANCH**

STORM WATER POLLUTION PREVENTION PLAN

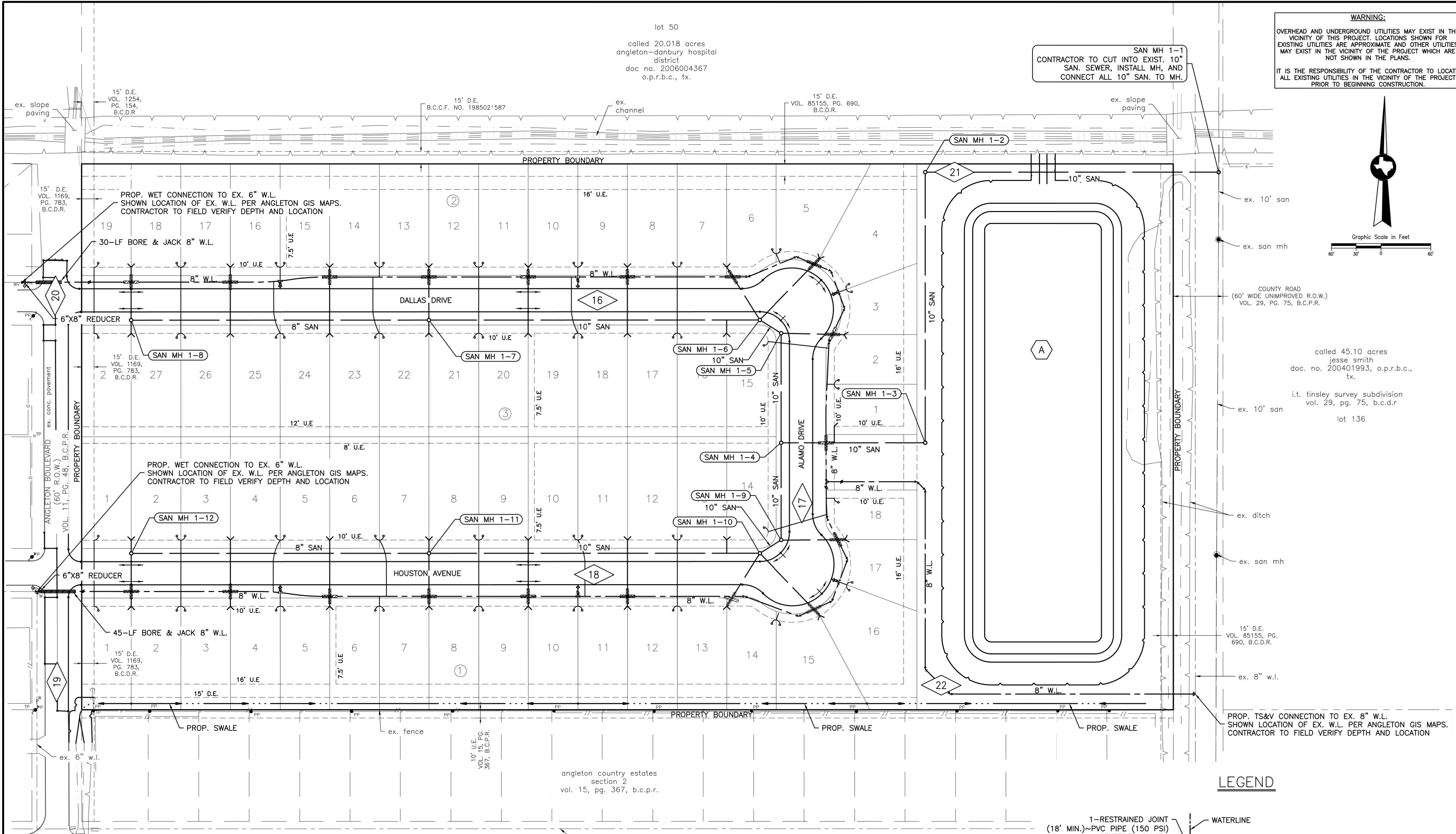
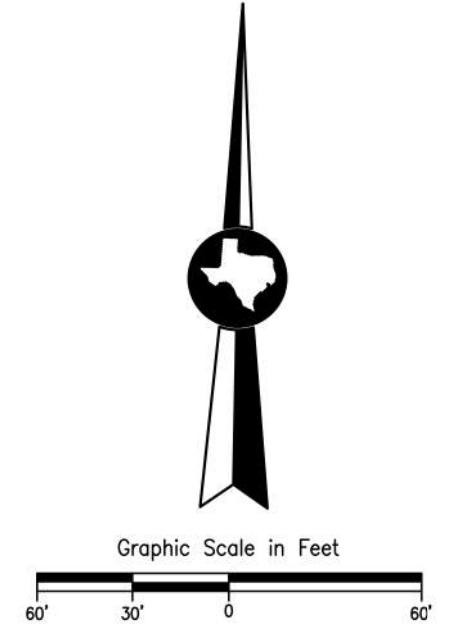
SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
DWGN. NPM. DATE 6/22	
CHKD. MCH. DATE 3/23	
APPR. MCH. DATE 3/23	
SCALE: HORIZ. 1" = 60'	SHEET 6 OF 49 SHEETS
VERT. N/A	

C:\21-027-00\Drawings\Layouts\21027000-LA-SWPPP.dwg Apr 03, 2023 3:27pm Edited by: Nitesh@skid

lot 50
 called 20.018 acres
 angleton-danbury hospital
 district
 doc no. 2006004367
 o.p.r.b.c., tx.

WARNING:
 OVERHEAD AND UNDERGROUND UTILITIES MAY EXIST IN THE VICINITY OF THIS PROJECT. LOCATIONS SHOWN FOR EXISTING UTILITIES ARE APPROXIMATE AND OTHER UTILITIES MAY EXIST IN THE VICINITY OF THE PROJECT WHICH ARE NOT SHOWN IN THE PLANS.
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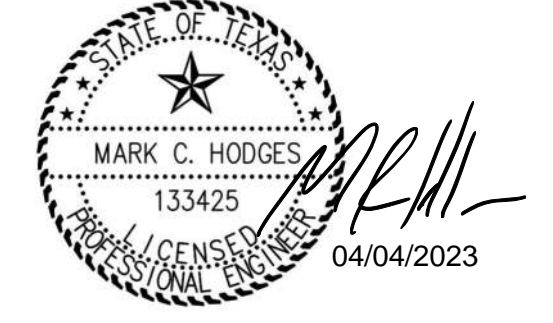
- GENERAL NOTES:**
- MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
 - CONTRACTOR SHALL FIELD VERIFY FLOW-LINES OF ALL EXISTING SANITARY SEWER, STORM SEWER, AND WATER LINES WHERE TYING IN, AND SHALL COORDINATE WITH CITY OF ANGLETON PUBLIC WORKS DEPARTMENT UPON CONNECTION.



BENCHMARK(S) / FLOODPLAIN		
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APPR.	REVISION	DATE



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**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**

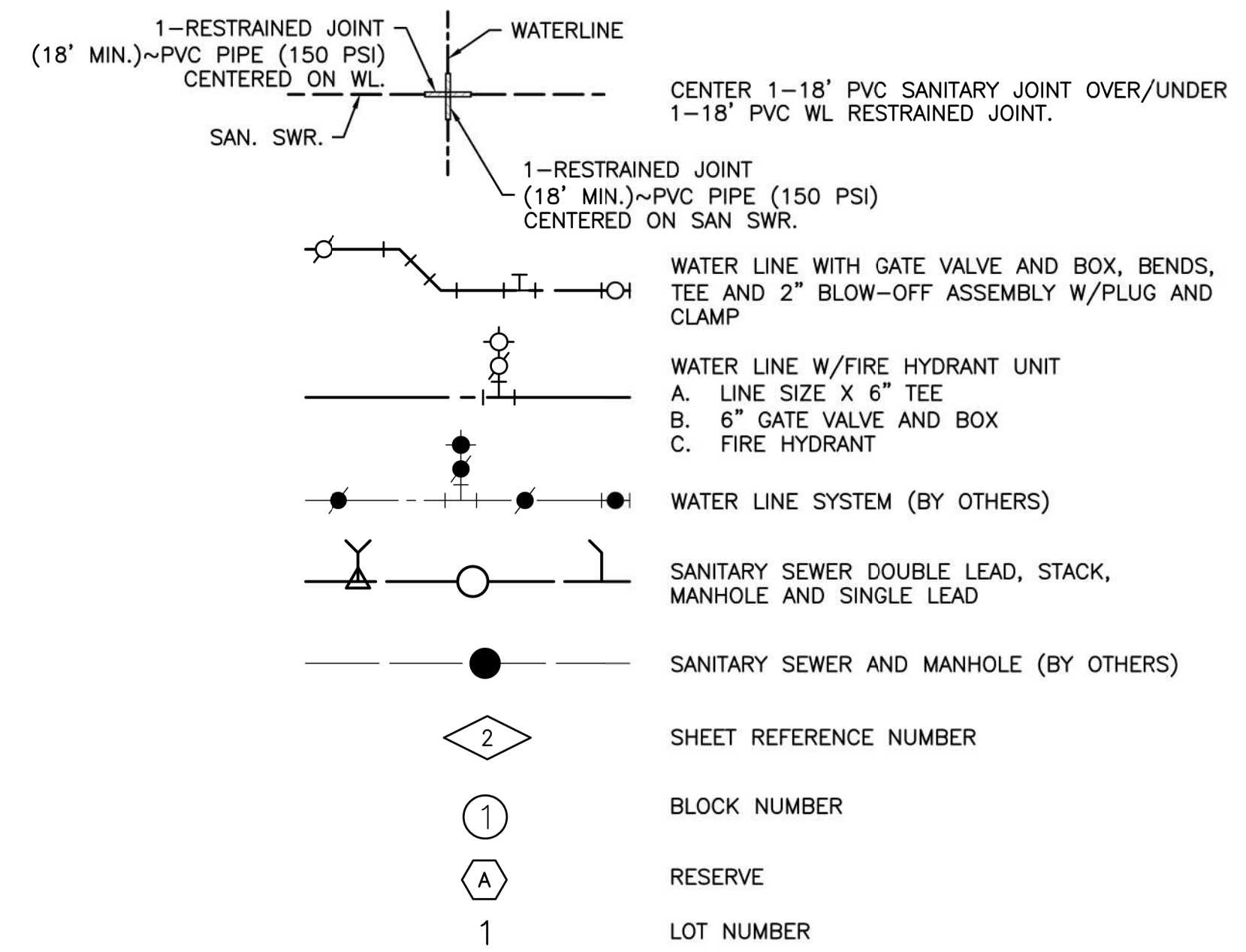
121 S Velasco,
 Angleton, Texas 77515

**CITY OF ANGLETON
 LIVE OAK RANCH**

**SANITARY SEWER &
 WATERLINE LAYOUT**

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	I-21027000-01
DWGN.	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		
SCALE:		HORIZ. 1" = 60'			
		VERT. N/A		SHEET 7 OF 49 SHEETS	

LEGEND

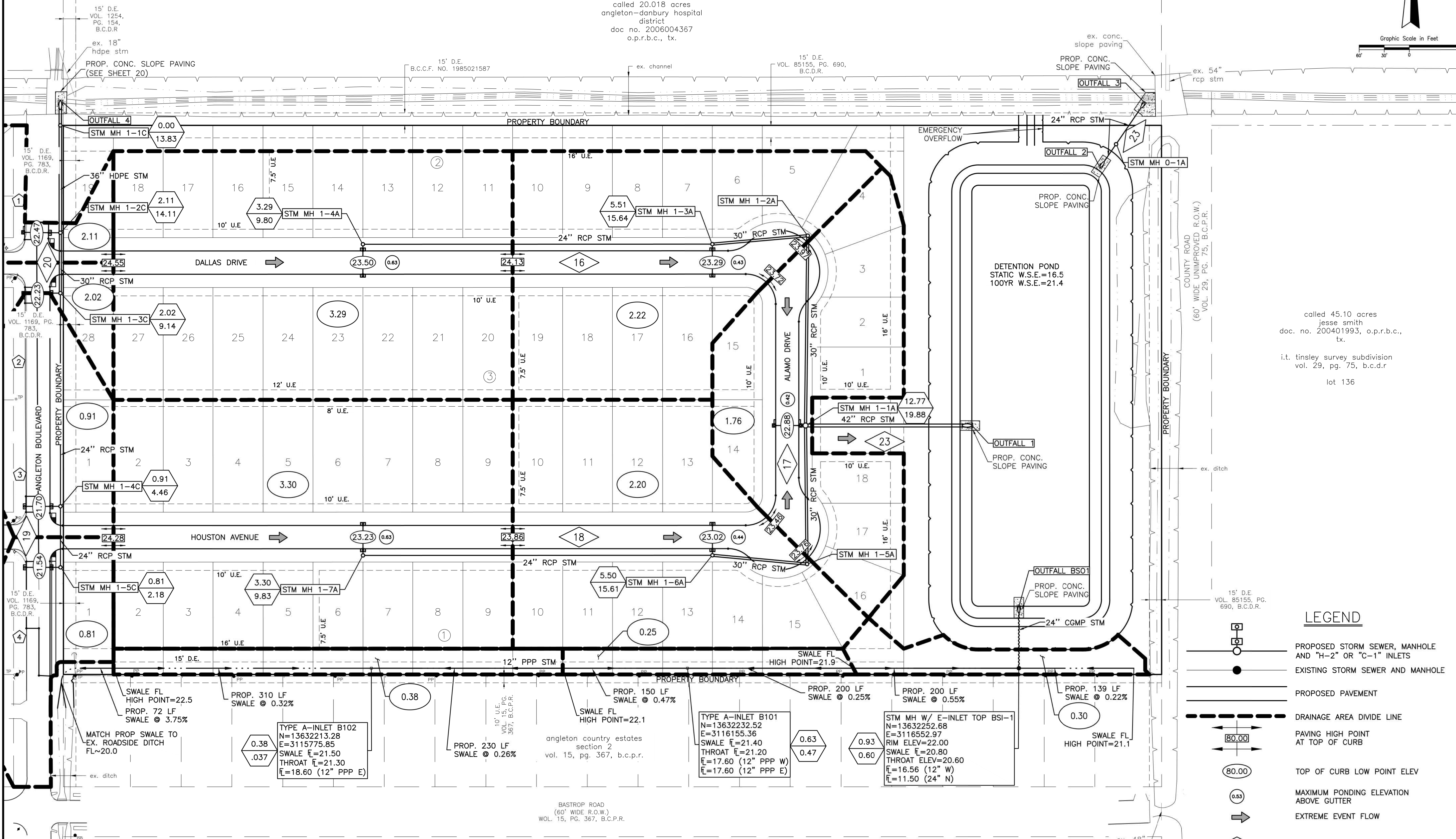
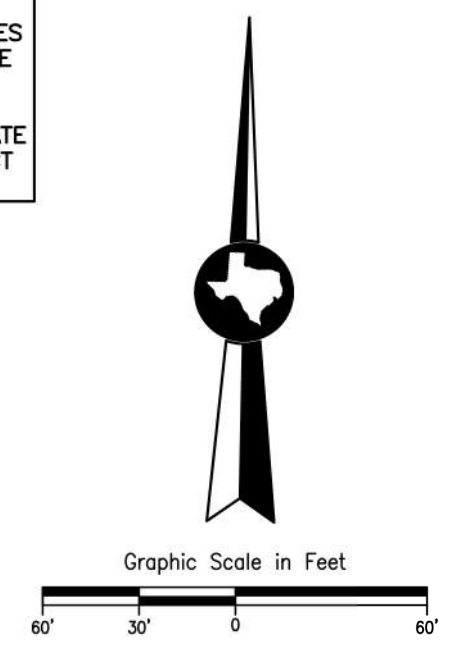


0:21-027-00(Orange)Layouts21027000-LA-SANITARY & WATERLINE.dwg Apr 03, 2023 3:37pm Edited by: Nitarg@sk

- ① DRAINAGE AREA IS 2.11 ACRES AND INCLUDES EAST HALF OF ANGLETON COUNTRY-ESTATES BLOCK 1 AND NORTH LANE OF DALLAS DRIVE
- ② DRAINAGE AREA IS 2.02 ACRES AND INCLUDES EAST HALF OF ANGLETON COUNTRY-ESTATES BLOCK 2, LOTS 10-18 AND SOUTH LANE OF DALLAS DRIVE
- ③ DRAINAGE AREA IS 0.91 ACRES AND INCLUDES PART OF ANGLETON COUNTRY-ESTATES BLOCK 2, LOTS 18 AND 36
- ④ DRAINAGE AREA IS 0.81 ACRES AND INCLUDES PART OF ANGLETON COUNTRY-ESTATES BLOCK 3, LOTS 18 AND 36

lot 50
called 20.018 acres
angleton-danbury hospital
district
doc no. 2006004367
o.p.r.b.c., tx.

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- GENERAL NOTES:**
- 4"x12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB. (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.) SEE SHEET 8 OF 49 FOR CURB LAYOUT
 - MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
 - CONTRACTOR SHALL FIELD VERIFY FLOW-LINES OF ALL EXISTING SANITARY SEWER, STORM SEWER, AND WATER LINES WHERE TYING IN.
 - CROSS SLOPE THROUGH CROSSWALK SHALL NOT EXCEED 2% IN ACCORDANCE WITH A.D.A.

BENCHMARK(S) / FLOODPLAIN		
BENCHMARK: ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.		
TEMPORARY BENCHMARK-A: TEMPORARY BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)		
TEMPORARY BENCHMARK-B: TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)		
FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400 EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".		
APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637

CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS
121 S Velasco,
Angleton, Texas 77515

CITY OF ANGLETON
LIVE OAK RANCH

STORM SEWER LAYOUT			
SURV. MS. DATE 5/22	JOB NO. 21-027-00		
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01		
CHKD. DATE 3/23			
APPR. MCH. DATE 3/23			
SCALE: HORIZ. 1" = 60'			
VERT. N/A			
SHEET 9 OF 49 SHEETS			

- LEGEND**
- PROPOSED STORM SEWER, MANHOLE AND "H-2" OR "C-1" INLETS
 - EXISTING STORM SEWER AND MANHOLE
 - PROPOSED PAVEMENT
 - DRAINAGE AREA DIVIDE LINE
 - PAVING HIGH POINT AT TOP OF CURB
 - TOP OF CURB LOW POINT ELEV.
 - MAXIMUM PONDING ELEVATION ABOVE GUTTER
 - EXTREME EVENT FLOW
 - SHEET REFERENCE NUMBER
 - BLOCK NUMBER
 - RESERVE
 - LOT NUMBER
 - DRAINAGE AREA ACREAGE
 - CUMULATIVE AREA (AC.)/SUM OF FLOW (CFS)

INTENSITY	
b	58.019
d	9.236
e	0.712

Brazoria County Storm Sewer Calculations - 5-Year

DRAINAGE AREA	FROM MH	TO MH	AREA (ac)	CUM. AREA (ac)	RUNOFF COEFF. C	C*A*Cf	SUM OF C*A*Cf	TIME OF CONC. (min)	INTENSITY i (in/hr)	SUM OF FLOWS (cfs)	REACH LENGTH (ft)	DIAM OR RISE (in)	SPAN (in)	Pipe X-Section Area (sf)	SLOPE (%)	MANNINGS "N"	DESIGN CAPACITY (cfs)	DESIGN VELOCITY (fps)	FALL (ft)	MH DROP (ft)	FLOWLINE UP STREAM (ft)	FLOWLINE DOWN STREAM (ft)	ACTUAL VELOCITY (fps)	HYDRAULIC GRADIENT (%)	CHANGE IN HEAD (ft)	HYD GRAD UP STREAM (ft)	HYD GRAD DOWN STREAM (ft)	TOP OF CURB UP STREAM (ft)	GUTTER UP STREAM (ft)
SYSTEM "A"																													
	1-4A	1-3A	3.29	3.29	0.60	1.97	1.97	22.33	4.97	9.80	420	24	-	3.14	0.18	0.013	9.6	3.06	0.76	0.00	18.95	18.19	3.12	0.187	0.78	21.02	20.23	23.50	23.0
	1-3A	1-2A	2.22	5.51	0.60	1.33	3.31	24.58	4.73	15.64	115	30	-	4.91	0.13	0.013	14.8	3.02	0.15	0.50	17.69	17.54	3.19	0.145	0.17	20.23	20.07	23.29	22.8
	1-2A	1-1A	0.00	5.51	0.60	0.00	3.31	25.18	4.67	15.44	228	30	-	4.91	0.13	0.013	14.8	3.02	0.30	0.00	17.54	17.24	3.15	0.141	0.32	20.07	19.74	23.29	22.8
	1-1A	OUT	1.76	12.77	0.60	1.06	4.36	26.39	4.56	19.88	200	42	-	9.62	0.50	0.013	71.3	7.41	1.00	5.74	11.50	10.50	2.07	0.039	0.08	16.58	16.50	22.88	22.4
	1-7A	1-6A	3.30	3.30	0.60	1.98	1.98	22.33	4.97	9.83	420	24	-	3.14	0.18	0.013	9.6	3.06	0.76	0.00	18.49	17.73	3.13	0.188	0.79	20.79	20.00	23.23	22.7
	1-6A	1-5A	2.20	5.50	0.60	1.32	3.30	24.57	4.73	15.61	114	30	-	4.91	0.13	0.013	14.8	3.02	0.15	0.26	17.47	17.32	3.18	0.144	0.16	20.00	19.84	23.02	22.5
	1-5A	1-1A	0.00	5.50	0.60	0.00	3.30	25.17	4.67	15.42	167	30	-	4.91	0.13	0.013	14.8	3.02	0.22	0.00	17.32	17.10	3.14	0.141	0.23	19.84	19.60	23.02	22.5
SYSTEM "B"																													
	B102	B101	0.38	0.38	0.20	0.08	0.08	23.80	4.81	0.37	380	12	-	0.79	0.26	0.010	2.4	3.03	1.00	0.00	18.60	17.60	0.47	0.006	0.02	18.62	18.60	21.90	21.4
	B101	BSI-1	0.25	0.63	0.20	0.05	0.13	37.41	3.76	0.47	398	12	-	0.79	0.26	0.010	2.4	3.02	1.04	0.00	17.60	16.56	0.60	0.010	0.04	17.60	17.56	21.80	21.3
	BSI-1	BSO1	0.30	0.93	0.20	0.06	0.19	48.40	3.24	0.60	75	24	-	3.14	1.33	0.024	14.2	4.52	1.00	5.06	11.50	10.50	0.19	0.002	0.00	16.50	16.50	21.50	21.0
SYSTEM "C"																													
	1-5C	1-4C	0.81	0.81	0.55	0.45	0.45	22.94	4.90	2.18	73	24	-	3.14	0.18	0.013	9.6	3.05	0.13	0.00	17.35	17.22	0.69	0.009	0.01	19.73	19.72	21.54	21.0
	1-4C	1-3C	0.91	1.72	0.55	0.50	0.95	24.70	4.72	4.46	256	24	-	3.14	0.18	0.013	9.6	3.06	0.46	0.00	17.22	16.76	1.42	0.039	0.10	19.72	19.62	21.70	21.2
	1-3C	1-2C	2.02	3.74	0.55	1.11	2.06	27.70	4.44	9.14	73	30	-	4.91	0.14	0.013	15.2	3.10	0.10	0.00	16.76	16.66	1.86	0.049	0.04	19.62	19.59	22.23	21.7
	1-2C	1-1C	2.11	5.85	0.55	1.16	3.22	28.35	4.39	14.11	129	36	-	7.07	0.10	0.013	21.2	3.00	0.13	0.00	16.66	16.53	2.00	0.045	0.06	19.59	19.53	22.47	22.0
	1-1C	OUT	0.00	5.85	0.55	0.00	3.22	29.43	4.30	13.83	30	36	-	7.07	0.10	0.013	21.3	3.01	0.03	0.00	16.53	16.50	1.96	0.043	0.01	19.51	19.50	22.60	22.1

INTENSITY	
b	46.316
d	1.555
e	0.533

Brazoria County Storm Sewer Calculations - 100-Year

DRAINAGE AREA	FROM MH	TO MH	AREA (ac)	CUM. AREA (ac)	RUNOFF COEFF. C	C*A*Cf	SUM OF C*A*Cf	TIME OF CONC. (min)	INTENSITY i (in/hr)	SUM OF FLOWS (cfs)	REACH LENGTH (ft)	DIAM OR RISE (in)	SPAN (in)	Pipe X-Section Area (sf)	SLOPE (%)	MANNINGS "N"	DESIGN CAPACITY (cfs)	DESIGN VELOCITY (fps)	FALL (ft)	MH DROP (ft)	FLOWLINE UP STREAM (ft)	FLOWLINE DOWN STREAM (ft)	ACTUAL VELOCITY (fps)	HYDRAULIC GRADIENT (%)	CHANGE IN HEAD (ft)	HYD GRAD UP STREAM (ft)	HYD GRAD DOWN STREAM (ft)	TOP OF CURB UP STREAM (ft)	GUTTER UP STREAM (ft)
SYSTEM "A"																													
	1-4A	1-3A	3.29	3.29	0.60	1.97	1.97	22.33	8.53	16.85	420	24	-	3.14	0.18	0.013	9.6	3.06	0.76	0.00	18.95	18.19	5.36	0.552	2.32	23.57	21.25	23.50	23.0
	1-3A	1-2A	2.22	5.51	0.60	1.33	3.31	23.64	8.30	27.42	115	30	-	4.91	0.13	0.013	14.8	3.02	0.15	0.50	17.69	17.54	5.59	0.445	0.51	21.25	20.74	23.29	22.8
	1-2A	1-1A	0.00	5.51	0.60	0.00	3.31	23.98	8.24	27.23	228	30	-	4.91	0.13	0.013	14.8	3.02	0.30	0.00	17.54	17.24	5.55	0.438	1.00	20.74	19.74	23.29	22.8
	1-1A	OUT	1.76	12.77	0.60	1.06	4.36	24.67	8.12	35.42	200	42	-	9.62	0.50	0.013	71.3	7.41	1.00	5.74	11.50	10.50	3.68	0.123	0.25	16.75	16.50	22.88	22.4
	1-7A	1-6A	3.30	3.30	0.60	1.98	1.98	22.33	8.53	16.90	420	24	-	3.14	0.18	0.013	9.6	3.06	0.76	0.00	18.49	17.73	5.38	0.555	2.33	23.17	20.84	23.23	22.7
	1-6A	1-5A	2.20	5.50	0.60	1.32	3.30	23.63	8.30	27.38	114	30	-	4.91	0.13	0.013	14.8	3.02	0.15	0.26	17.47	17.32	5.58	0.443	0.51	20.84	20.33	23.02	22.5
	1-5A	1-1A	0.00	5.50	0.60	0.00	3.30	23.98	8.24	27.18	167	30	-	4.91	0.13	0.013	14.8	3.02	0.22	0.00	17.32	17.10	5.54	0.437	0.73	20.33	19.60	23.02	22.5
SYSTEM "B"																													
	B102	B101	0.38	0.38	0.20	0.08	0.08	23.80	8.27	0.63	380	12	-	0.79	0.26	0.010	2.4	3.03	1.00	0.00	18.60	17.60	0.80	0.018	0.07	18.67	18.60	21.90	21.4
	B101	BSI-1	0.25	0.63	0.20	0.05	0.13	31.72	7.15	0.90	398	12	-	0.79	0.26	0.010	2.4	3.02	1.04	0.00	17.60	16.56	1.15	0.038	0.15	17.71	17.56	21.80	21.3
	BSI-1	BSO1	0.30	0.93	0.20	0.06	0.19	37.50	6.57	1.22	75	24	-	3.14	1.33	0.024	14.2	4.52	1.00	5.06	11.50	10.50	0.39	0.010	0.01	16.51	16.50	21.50	21.0
SYSTEM "C"																													
	1-5C	1-4C	0.81	0.81	0.55	0.45	0.45	22.94	8.42	3.75	73	24	-	3.14	0.18	0.013	9.6	3.05	0.13	0.00	17.35	17.22	1.19	0.027	0.02	20.17	20.15	21.54	21.0
	1-4C	1-3C	0.91	1.72	0.55	0.50	0.95	23.96	8.24	7.79	256	24	-	3.14	0.18	0.013	9.6	3.06	0.46	0.00	17.22	16.76	2.48	0.118	0.30	20.15	19.84	21.70	21.2
	1-3C	1-2C	2.02	3.74	0.55	1.11	2.06	25.68	7.96	16.37	73	30	-	4.91	0.14	0.013	15.2	3.10	0.10	0.00	16.76	16.66	3.33	0.158	0.12	19.84	19.73	22.23	21.7
	1-2C	1-1C	2.11	5.85	0.55	1.16	3.22	26.05	7.90	25.42	129	36	-	7.07	0.10	0.013	21.2	3.00	0.13	0.00	16.66	16.53	3.60	0.145	0.19	19.73	19.54	22.47	22.0
	1-1C	OUT	0.00	5.85	0.55	0.00	3.22	26.65	7.81	25.13	30	36	-	7.07	0.10	0.013	21.3	3.01	0.03	0.00	16.53	16.50	3.56	0.141	0.04	19.54	19.50	22.60	22.1

BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.

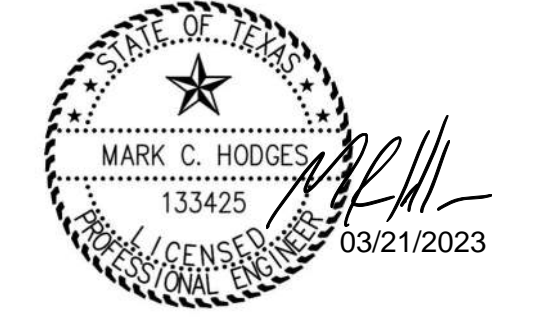
TEMPORARY BENCHMARK-A:
TEMPORARY BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)

TEMPORARY BENCHMARK-B:
TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)

FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0480 EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
2500 Tanglewild Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



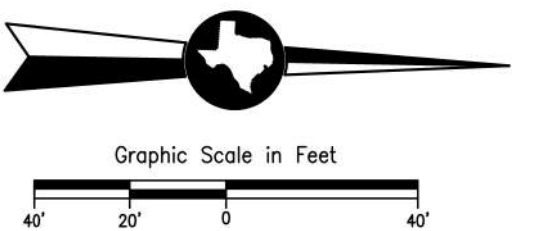
**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**
121 S Velasco,
Angleton, Texas 77515

**CITY OF ANGLETON
LIVE OAK RANCH**

STORM CALCULATIONS			
SURV. MS	DATE	5/22	JOB NO. 21-027-00
DSGN. NPM	DATE	6/22	
DWN. NPM	DATE	6/22	
CHKD. MCH	DATE	3/23	
APPR. MCH	DATE	3/23	
IMAGE NO. I-21027000-01			SHEET 10 OF 49 SHEETS
SCALE: HORIZ. N/A VERT. N/A			

C:\21-027-00\Drawings\Storm Calculations.dwg Mar 21, 2023 11:50am Edited by: Miroslawski

WARNING:
 OVERHEAD AND UNDERGROUND UTILITIES MAY EXIST IN THE VICINITY OF THIS PROJECT. LOCATIONS SHOWN FOR EXISTING UTILITIES ARE APPROXIMATE AND OTHER UTILITIES MAY EXIST IN THE VICINITY OF THE PROJECT WHICH ARE NOT SHOWN IN THE PLANS.
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES IN THE VICINITY OF THE PROJECT PRIOR TO BEGINNING CONSTRUCTION.



- LEGEND**
- GRADE BREAK
 - PROPERTY BOUNDARY
 - PROPOSED HIGHBANK
 - PROPOSED SWALE
 - ADJACENT PROPERTY BOUNDARY
 - EXISTING FENCE
 - EXISTING CONTOUR AND ELEVATION
 - ◇ SHEET REFERENCE
 - 83.2 --- PROPOSED ELEVATION

- GENERAL NOTES:**
- ALL T.C. ELEVATIONS SHOWN ON PLAN AND PROFILE ARE BASED ON 6" CURB. TO OBTAIN 4"x12" CURB ELEVATION, SUBTRACT 0.17'.
 - 4"x12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB. (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.) SEE SHEET 8 OF 49 FOR CURB LAYOUT
 - MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
 - CONTRACTOR SHALL FIELD VERIFY FLOW-LINES OF ALL EXISTING SANITARY SEWER, STORM SEWER, AND WATER LINES WHERE TYING IN.
 - CROSS SLOPE THROUGH CROSSWALK SHALL NOT EXCEED 2% IN ACCORDANCE WITH A.D.A.
 - SPECIAL GEOTECHNICAL NOTE FOR UTILITIES UNDER CUL-DE-SAC AND OR KNUCKLES: ALL UTILITIES UNDER PAVEMENT IN CUL-DE-SAC AND OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE
 - IN THE EVENT OF AN EXTREME EVENT OVERFLOW, ANY EROSION TO THE RECEIVING CHANNEL WILL BE REPAIRED TO EXISTING CONDITION BY THE HOA.

EARTHWORK SUMMARY

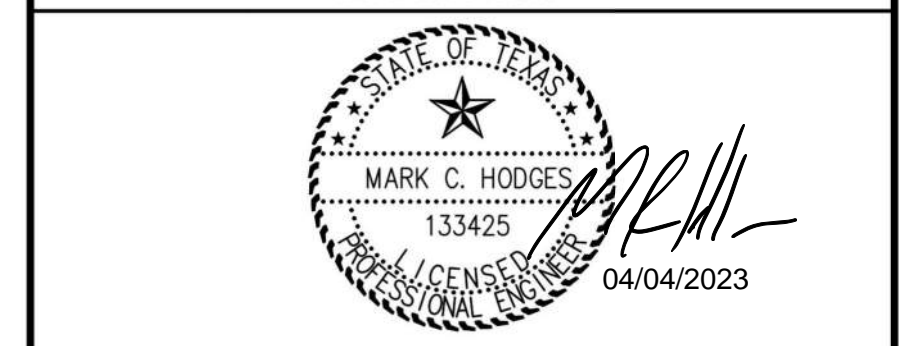
DESCRIPTION	CY
DETENTION POND EXCAVATION (ABOVE STATIC WATER SURFACE ELEV.)	27,300
DETENTION POND EXCAVATION (BELOW STATIC WATER SURFACE ELEV.)	19,000
SITE EXCAVATION	2,200
UTILITY SPOILS	4,500
REQUIRED FILL (PER GRADING PLAN)	47,200

- NOTES:**
- ALL EXCAVATED MATERIAL IS TO BE USED FOR ON-SITE GRADING AND FILL. NO OFF-SITE DISPOSAL.
 - SITE EXCAVATION CONSISTS OF REAR LOT SWALES AND GRADING WITHIN ANGLETON BOULEVARD PER GRADING PLAN

BENCHMARK(S) / FLOODPLAIN

APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseysg.com
 TPBE No. F-17637

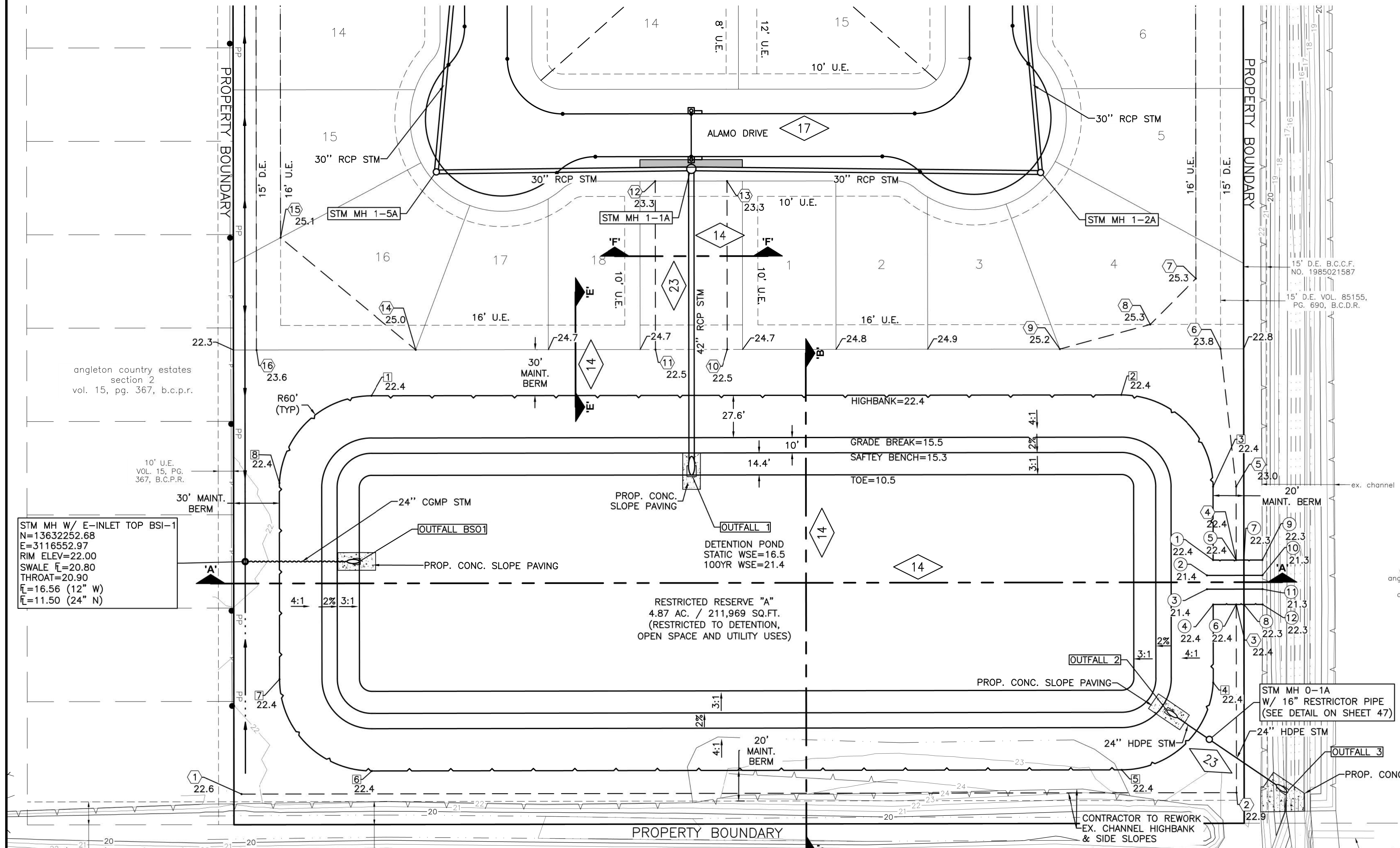


**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**
 121 S Velasco,
 Angleton, Texas 77515

**CITY OF ANGLETON
 LIVE OAK RANCH**

DETENTION POND LAYOUT

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. MPH. DATE 5/22	IMAGE NO. I-21027000-01
DWN. MPH. DATE 5/22	SCALE: HORIZ. 1"=40'
CHKD. MCH. DATE 5/22	VERT. N/A
APPR. MCH. DATE 5/22	SHEET 11 OF 49 SHEETS



EMERGENCY SPILLWAY POINT TABLE

POINT #	NORTHING	EASTING	ELEV.
1	13632884.35	3116520.69	22.40
2	13632880.86	3116530.88	21.40
3	13632881.32	3116539.87	21.40
4	13632885.82	3116549.66	22.40
5	13632899.33	3116519.93	22.37
6	13632900.80	3116548.90	22.37
7	13632904.33	3116519.68	22.34
8	13632905.79	3116548.64	22.34
9	13632916.29	3116519.08	22.30
10	13632916.85	3116529.06	21.33
11	13632917.35	3116538.05	21.33
12	13632917.85	3116548.03	22.30

DETENTION POND HIGHBANK POINT TABLE

POINT #	NORTHING	EASTING	ELEV.
1	13632329.59	3116440.72	22.40
2	13632818.96	3116415.91	22.40
3	13632881.92	3116472.79	22.40
4	13632888.32	3116600.59	22.40
5	13632831.38	3116660.52	22.40
6	13632342.01	3116685.47	22.40
7	13632279.03	3116628.59	22.40
8	13632272.67	3116500.64	22.40

GRADE BREAK POINT TABLE

POINT #	NORTHING	EASTING	ELEV.
1	13632257.86	3116704.78	22.60
2	13632907.02	3116671.68	22.90
3	13632900.80	3116548.86	22.37
4	13632899.33	3116519.93	22.37
5	13632896.90	3116472.03	23.00
6	13632882.36	3116382.65	23.80
7	13632864.05	3116337.52	25.30
8	13632835.61	3116369.00	25.30
9	13632777.36	3116387.99	25.20

GRADE BREAK POINT TABLE

POINT #	NORTHING	EASTING	ELEV.
10	13632560.52	3116398.97	22.50
11	13632513.58	3116401.35	22.50
12	13632508.01	3116291.49	23.30
13	13632554.95	3116289.11	23.30
14	13632357.18	3116409.29	25.00
15	13632265.44	3116340.52	25.10
16	13632253.22	3116414.56	23.60

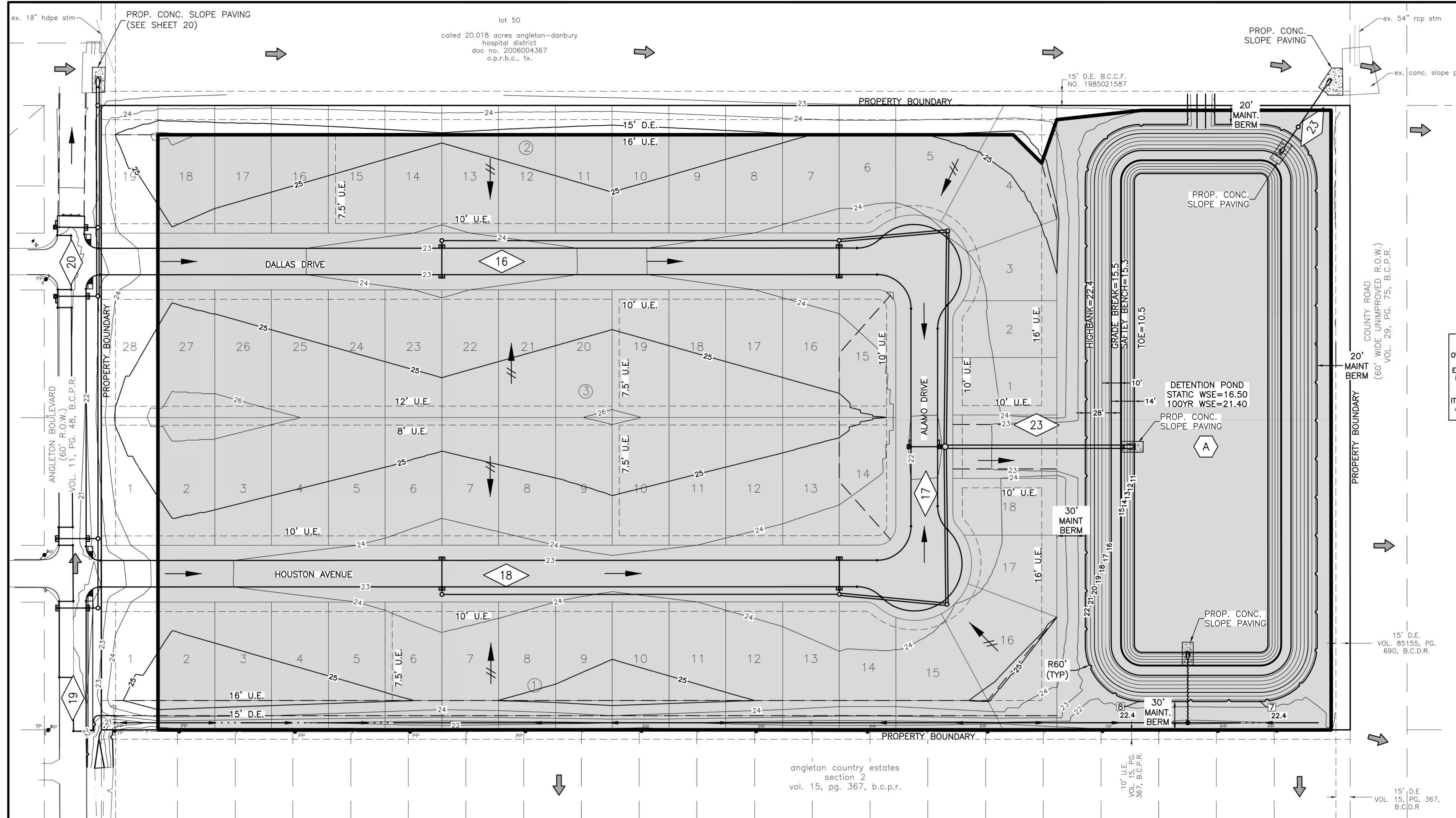
STM MH W/ E-INLET TOP BSI-1
 N=13632252.68
 E=3116552.97
 RIM ELEV=22.00
 SWALE E=20.80
 THROAT=20.90
 E=16.56 (12" W)
 E=11.50 (24" N)

RESTRICTED RESERVE "A"
 4.87 AC. / 211,969 SQ.FT.
 (RESTRICTED TO DETENTION,
 OPEN SPACE AND UTILITY USES)

lot 50
 called 20.018 acres
 angleton-danbury hospital
 district
 doc no. 2006004367
 o.p.r.b.c., tx.

COUNTY ROAD
 (60' WIDE UNIMPROVED R.O.W.)
 VOL. 29, PG. 75, B.C.P.R.
 i.t. tinsley survey subdivision
 vol. 29, pg. 75, b.c.d.r.
 lot 136
 called 45.10 acres
 jesse smith
 doc. no. 200401993, o.p.r.b.c., tx.

C:\21-027-00\Drawings\LAYOUTS\DETENTION POND LAYOUT & CALCULATIONS.dwg Apr 03, 2023 5:27pm Edited by: Mhachigal

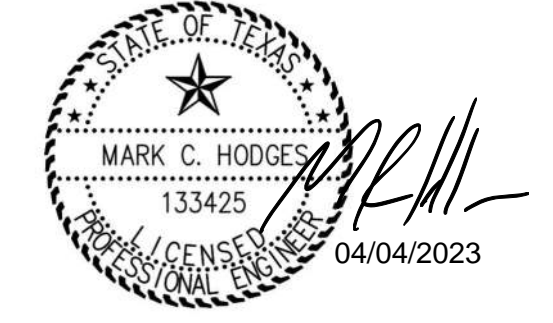


WARNING:
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- GENERAL NOTES:**
- ALL T.C. ELEVATIONS SHOWN ON PLAN AND PROFILE ARE BASED ON 6" CURB. TO OBTAIN 4"x12" CURB ELEVATION, SUBTRACT 0.17'.
 - 4"x12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.) SEE SHEET 8 OF 49 FOR CURB LAYOUT
 - MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
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 - CROSS SLOPE THROUGH CROSSWALK SHALL NOT EXCEED 2% IN ACCORDANCE WITH A.D.A.

BENCHMARK(S) / FLOODPLAIN		
BENCHMARK: ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.		
TEMPORARY BENCHMARK-A: TEMPORARY BENCHMARK "A" BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)		
TEMPORARY BENCHMARK-B: TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)		
FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400E EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".		
APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
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t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

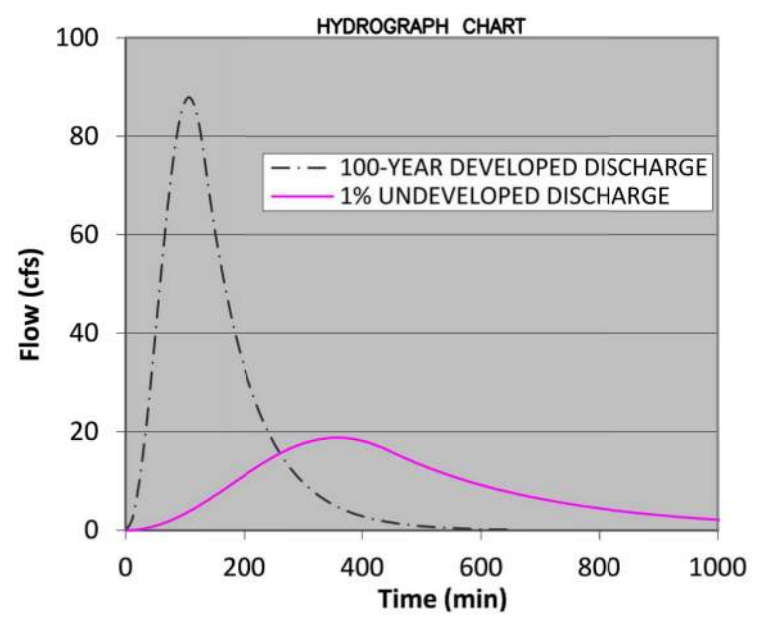
**CITY OF ANGLETON
LIVE OAK RANCH**

**DETENTION POND SERVICE AREA
& CALCULATIONS**

SURV. MS	DATE 5/22	JOB NO.	21-027-00
DSGN. NPM	DATE 6/22	IMAGE NO.	I-21027000-01
CHKD. MCH	DATE 3/23	SCALE:	
APPR. MCH	DATE 3/23	HORIZ. 1"=60'	
		VERT. N/A	

LIVE OAK RANCH REQUIRED DETENTION VOLUME ANALYSIS
Utilize Small Watershed (Malcom's) Method

Return Period	100 yr
Drainage Area	20.0 acre
Runoff Rate	0.94 cfs/acre
Cover	18.3 cfs
Runoff Volume Pre	560,472 cf
C-post	0.55
I-post	6.39 in/hr
Cf	1.25
Cpost	87.9 cfs
Runoff Volume Post	779,071 cf
UnDev. T(p)	357 min
Dev. T(p)	106 min
Time Interval	10.6 min
Storage Volume Required	13.90 ac-ft



Detention Storage Provided					
Contour Elev.	Contour Area (ft ²)	Depth (ft)	Inc. Vol. Avg. End (ft ³)	Cum. Vol. Avg. End (ft ³)	Cum. Vol. Avg. End (ac-ft)
16.50	110,183.18	-	-	0.00	0.00
17.50	116,068.25	1.00	113,125.71	113,125.71	2.60
18.50	122,053.86	1.00	119,061.06	232,186.77	5.33
19.50	128,140.00	1.00	125,096.93	357,283.70	8.20
20.50	134,326.68	1.00	131,233.34	488,517.04	11.21
21.40	139,980.63	0.90	123,438.29	611,955.33	14.05

Restrictor Sizing Calculation

$$Q = CA\sqrt{2GH} \text{ and } D = \frac{Q^{1/2}}{2.25 H^{1/4}}$$

Outflow discharge (Q) = 18.8 cfs
C = 0.8
Orifice area (A) = 1.42 ft²
Gravitational factor (G) = 32.2 fps
Head, water surface differential (H) = 4.23 ft
Orifice diameter (D) = 1.34 ft
Orifice diameter (D) = 16.1 in.
100-YR W.S.E. = 21.40
S.W.E. = 16.50

LEGEND

- ← EXTREME EVENT FLOW
- ← OFF-SITE SHEET FLOW
- FINISHED GRADE DIRECTION OF FLOW
- GRADE BREAK
- PROPERTY BOUNDARY
- PROPOSED HIGHBANK
- PROPOSED SWALE
- ADJACENT PROPERTY BOUNDARY
- EXISTING FENCE
- EXISTING CONTOUR AND ELEVATION
- ◇ SHEET REFERENCE
- ◇ 83.2 PROPOSED ELEVATION
- ▭ PROPOSED DETENTION SERVICE AREA (AREA=18.03 ACRES)
- RESERVE AREA

WATERSHED: LOWER OYSTER CREEK
NOTE: EXISTING CONDITION RUNOFF RATE OF 0.84 CFS/AC IS PER ANGLETON DRAINAGE DISTRICT ZONE BB 28.

HYDROGRAPH TABLE

Time (min)	q(t) (cfs)	q(t) (cfs)	Difference (cfs)	Incremental Volume (ac-ft)	Storage Cumulative Volume (ac-ft)
0.0	0.00	0.00	0.00	0.00	0.00
10.6	2.15	0.04	2.11	0.02	0.02
21.2	8.40	0.16	8.23	0.08	0.09
31.9	18.12	0.37	17.75	0.19	0.28
42.5	30.38	0.65	29.73	0.36	0.63
53.1	43.96	1.01	42.95	0.53	1.16
63.7	57.55	1.44	56.11	0.72	1.89
74.4	69.80	1.94	67.87	0.91	2.79
85.0	79.53	2.50	77.03	1.06	3.85
95.6	85.77	3.13	82.65	1.17	5.02
106.2	87.93	3.81	84.12	1.22	6.24
116.9	85.77	4.54	81.23	1.21	7.45
127.5	79.53	5.31	74.22	1.14	8.59
138.1	70.41	6.12	64.29	1.01	9.60
148.7	61.83	6.95	54.88	0.87	10.47
159.4	54.29	7.81	46.48	0.74	11.22
170.0	47.67	8.68	39.09	0.63	11.84
180.6	41.86	9.56	32.31	0.52	12.36
191.2	36.76	10.43	26.33	0.43	12.79
201.9	32.28	11.30	20.98	0.35	13.14
212.5	28.34	12.16	16.19	0.27	13.41
223.1	24.89	12.97	11.91	0.21	13.62
233.7	21.85	13.77	8.08	0.15	13.76
244.4	19.19	14.53	4.66	0.09	13.86
255.0	16.85	15.24	1.61	0.05	13.90
265.6	14.80	15.90	-1.10	0.00	13.90
276.2	12.99	16.50	-3.51	-0.03	13.87
286.9	11.41	17.05	-5.64	-0.07	13.80
297.5	10.02	17.52	-7.51	-0.10	13.71
308.1	8.80	17.93	-9.13	-0.12	13.59

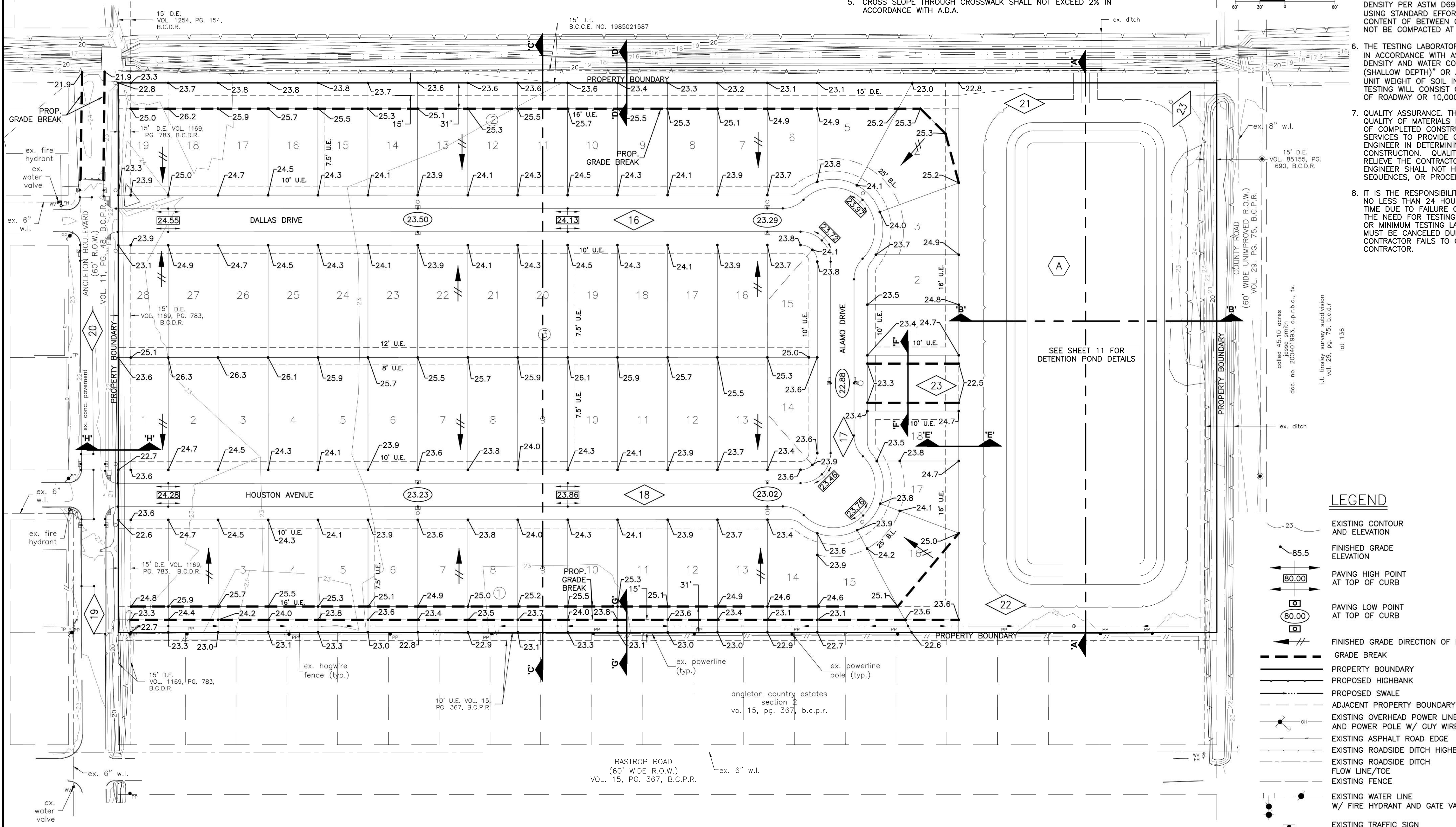
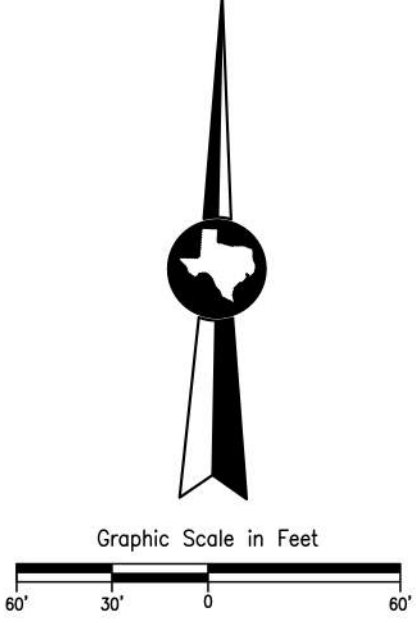
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lot 50
 called 20.018 acres angleton-danbury hospital district
 doc. no. 2006004367
 o.p.r.b.c., tx.

- GENERAL NOTES:**
- ALL T.C. ELEVATIONS SHOWN ON PLAN AND PROFILE ARE BASED ON 6" CURB. TO OBTAIN 4"x12" CURB ELEVATION, SUBTRACT 0.17'.
 - ALL INTERIOR CONCRETE CURBS SHALL BE 4"x12", 6" CONCRETE CURB SHALL BE INSTALLED AT AREAS ADJACENT TO RESERVES AND ON COLLECTOR ROAD. (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.) SEE SHEET 8 OF 49 FOR CURB LAYOUT
 - MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
 - CONTRACTOR SHALL FIELD VERIFY FLOW-LINES OF ALL EXISTING SANITARY SEWER, STORM SEWER, AND WATER LINES WHERE TYING IN.
 - CROSS SLOPE THROUGH CROSSWALK SHALL NOT EXCEED 2% IN ACCORDANCE WITH A.D.A.

- COMPACTION NOTE**
- ALL FILL SHALL BE PLACED IN 8" LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY WITH A MOISTURE CONTENT OF + 3% OPTIMUM.
 - CONTRACTOR IS RESPONSIBLE FOR STRIPPING THE TOP 4 TO 6 INCHES OF SOILS, STOCKPILING DURING FILL OPERATIONS, AND SPREADING AFTER FINAL FILL PLACEMENT.
 - CONTRACTOR SHALL PROOF-ROLL ALL AREAS PRIOR TO FILL PLACEMENT. AREAS FOUND TO BE "PUSHING" OR SHOWING EXCESSIVE MOISTURE SHALL BE DRIED OUT AND RE-COMPACTED.
 - THE TESTING LABORATORY'S REPRESENTATIVE WILL DETERMINE THE MOISTURE-DENSITY RELATIONSHIPS IN ACCORDANCE WITH ASTM D698, ON MATERIAL SECURED FROM EACH TYPE OF MATERIAL ENCOUNTERED.
 - EACH LAYER SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY PER ASTM D698. "LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT OF 12,400 FT-LB/FT³ (600 KN-M/M³)", AT A MOISTURE CONTENT OF BETWEEN OPTIMUM AND PLUS 3 PERCENT OF OPTIMUM. SOILS SHALL NOT BE COMPACTED AT LESS THAN THE OPTIMUM MOISTURE CONTENT.
 - THE TESTING LABORATORY'S REPRESENTATIVE WILL DETERMINE THE IN-PLACE DENSITY IN ACCORDANCE WITH ASTM D6938. "STANDARD TEST METHOD FOR IN-PLACE DENSITY AND WATER CONTENT OF SOIL AND SOIL-AGGREGATE BY NUCLEAR METHODS (SHALLOW DEPTH)" OR ASTM D1556, "STANDARD TEST METHODS FOR DENSITY AND UNIT WEIGHT OF SOIL IN PLACE BY SAND-CONE METHOD". THE MINIMUM LEVEL OF TESTING WILL CONSIST OF AT LEAST THREE TESTS FOR EACH 1,000 FEET PER LANE OF ROADWAY OR 10,000 SQUARE FEET OF FILL, PER LIFT.
 - QUALITY ASSURANCE. THE CONTRACTOR IS RESPONSIBLE FOR THE CONTROL OF THE QUALITY OF MATERIALS INCORPORATED INTO THE CONSTRUCTION AND THE QUALITY OF COMPLETED CONSTRUCTION. THE OWNER WILL ENGAGE MATERIALS ENGINEERING SERVICES TO PROVIDE QUALITY ASSURANCE TESTING AND INSPECTION TO ASSIST THE ENGINEER IN DETERMINING THE ACCEPTABILITY OF MATERIALS AND COMPLETED CONSTRUCTION. QUALITY ASSURANCE SERVICES PROVIDED BY THE OWNER DO NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR QUALITY CONTROL. THE ENGINEER SHALL NOT HAVE CONTROL OF THE MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES OF CONSTRUCTION SELECTED BY THE CONTRACTOR.



- LEGEND**
- EXISTING CONTOUR AND ELEVATION
 - FINISHED GRADE ELEVATION
 - PAVING HIGH POINT AT TOP OF CURB
 - PAVING LOW POINT AT TOP OF CURB
 - FINISHED GRADE DIRECTION OF FLOW
 - GRADE BREAK
 - PROPERTY BOUNDARY
 - PROPOSED HIGHBANK
 - PROPOSED SWALE
 - ADJACENT PROPERTY BOUNDARY
 - EXISTING OVERHEAD POWER LINE AND POWER POLE W/ GUY WIRE
 - EXISTING ASPHALT ROAD EDGE
 - EXISTING ROADSIDE DITCH HIGHBANK
 - FLOW LINE/TOE
 - EXISTING FENCE
 - EXISTING WATER LINE W/ FIRE HYDRANT AND GATE VALVE
 - EXISTING TRAFFIC SIGN
 - SHEET REFERENCE
 - LOT NUMBER
 - BLOCK NUMBER
 - RESERVE

FOR CROSS SECTIONS SEE SHEET 14 OF 49

BENCHMARK(S) / FLOODPLAIN

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TEMPORARY BENCHMARK-B:
 TEMPORARY BENCHMARK "B" IS A BOX OUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET. (NAVD83, 2001 ADJUSTMENT)

FLOODPLAIN:
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APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseyeg.com
 TBPE No. F-17637



**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**
 121 S Velasco,
 Angleton, Texas 77515

**CITY OF ANGLETON
 LIVE OAK RANCH**

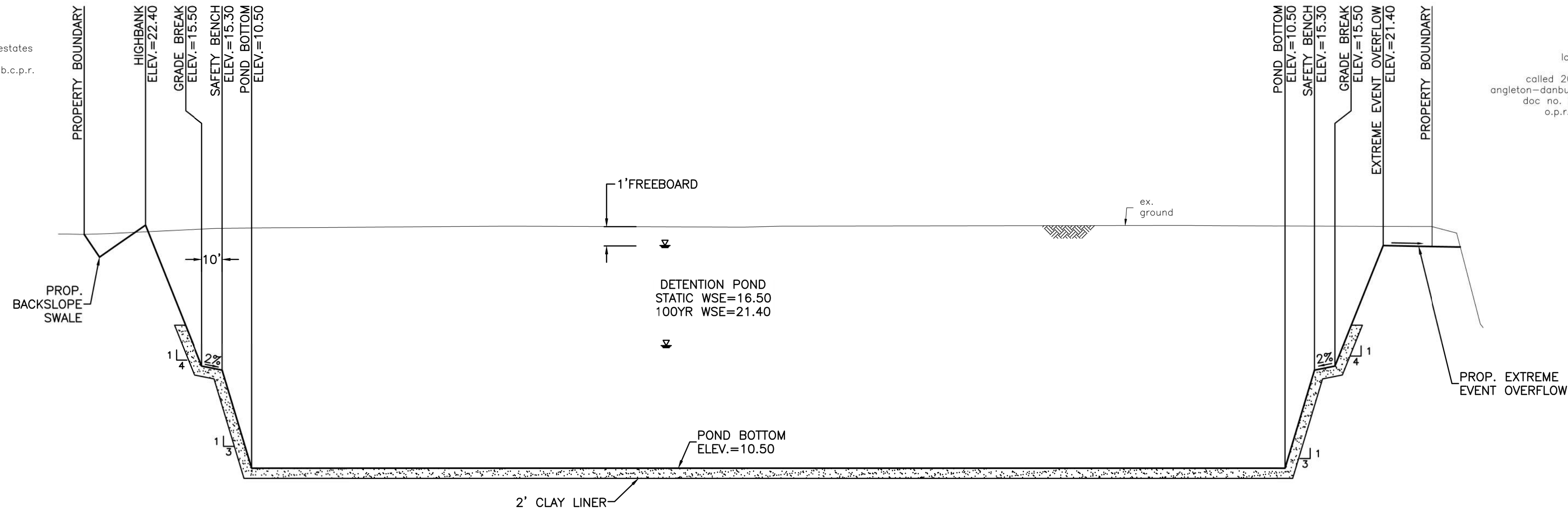
GRADING LAYOUT

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	I-21027000-01
CHKD.	NCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

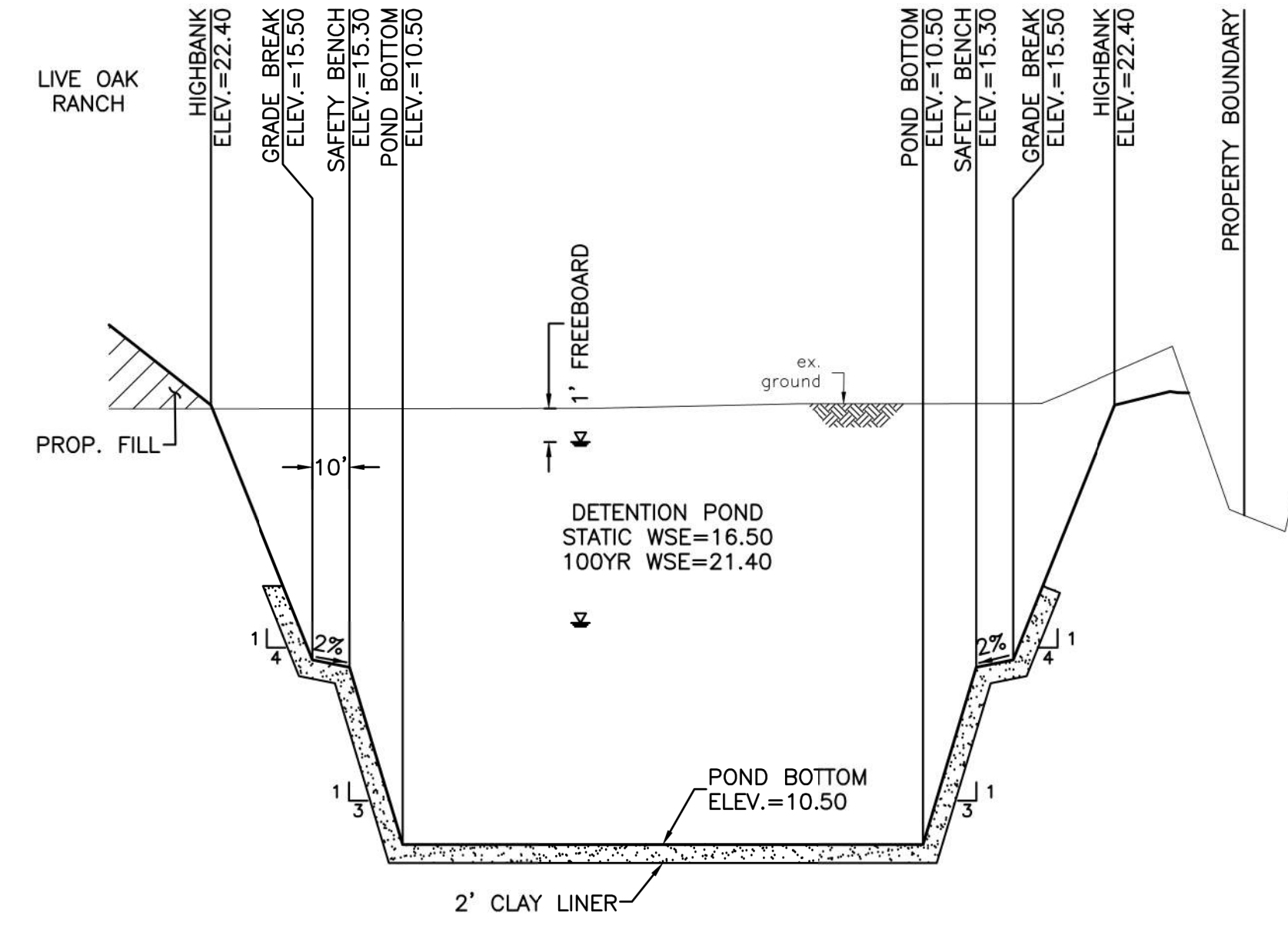
SCALE:
 HORIZ. 1" = 60'
 VERT. N/A

SHEET 13 OF 49 SHEETS

angleton country estates
section 2
vol. 15, pg. 367, b.c.p.r.

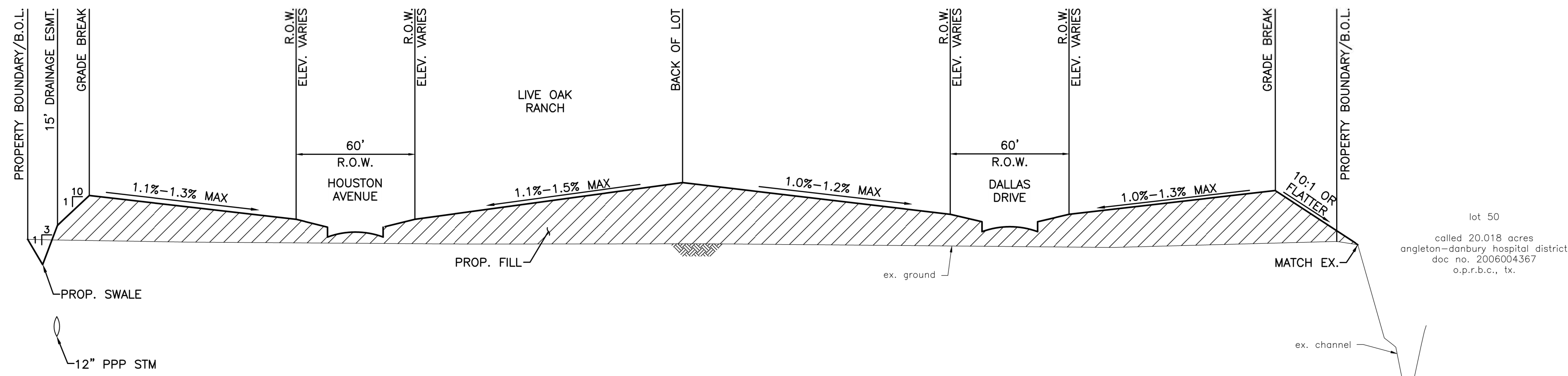


SECTION A-A

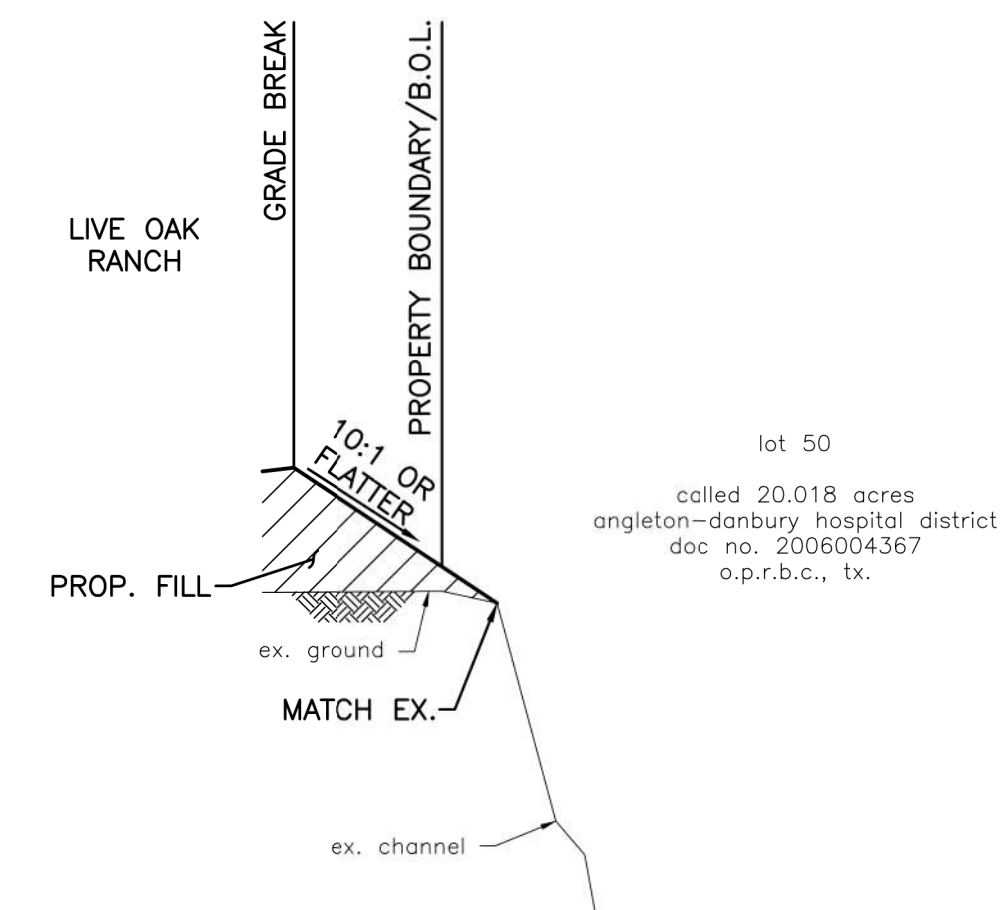


SECTION B-B

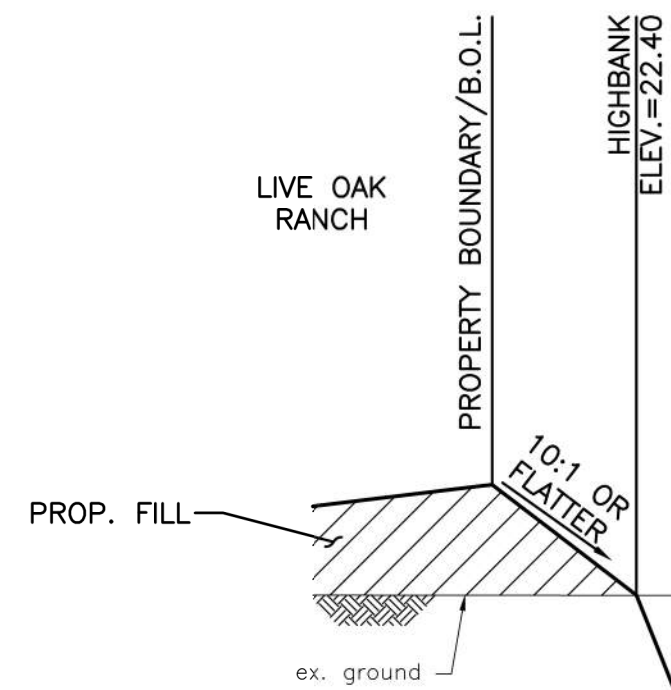
angleton country estates
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vol. 15, pg. 367, b.c.p.r.



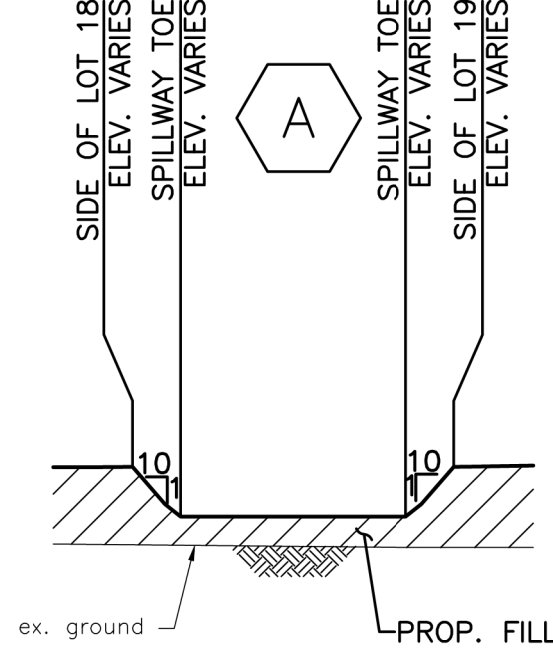
SECTION C-C



SECTION D-D

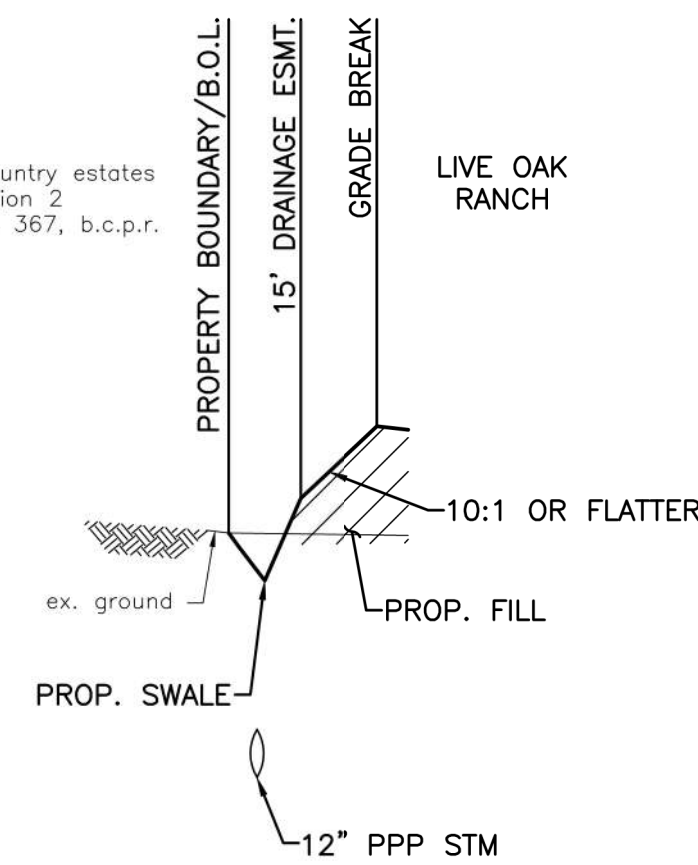


SECTION E-E

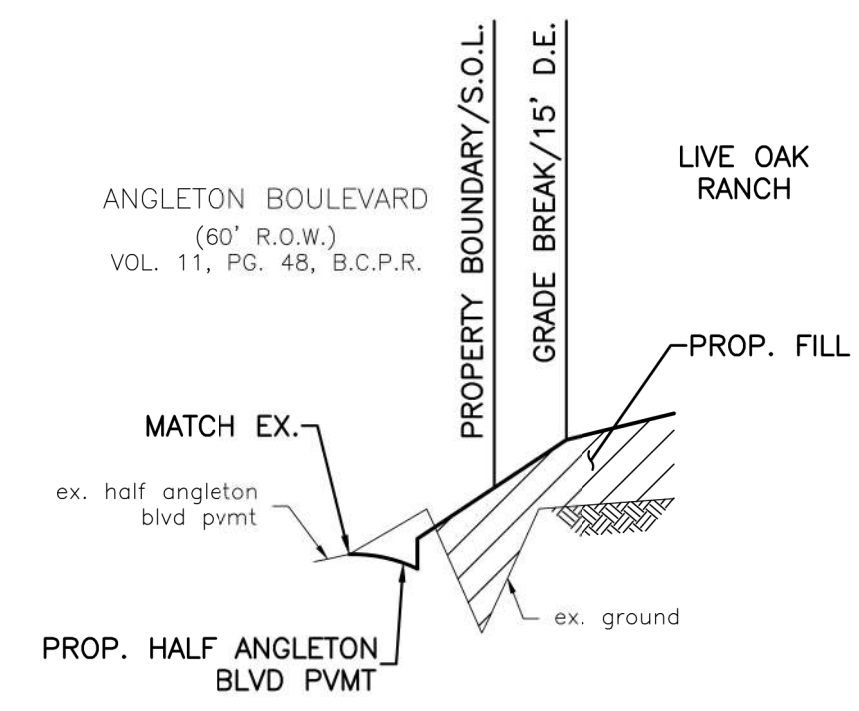


SECTION F-F

angleton country estates
section 2
vol. 15, pg. 367, b.c.p.r.



SECTION G-G



SECTION H-H

BENCHMARK(S) / FLOODPLAIN

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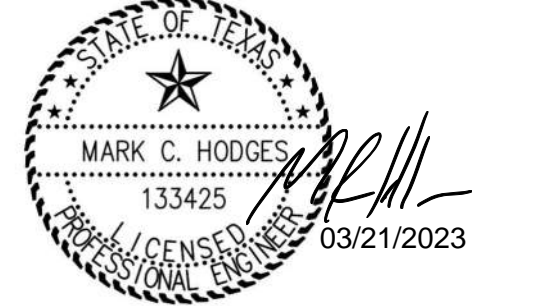
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FLOODPLAIN:
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APPR.	REVISION	DATE



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CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS

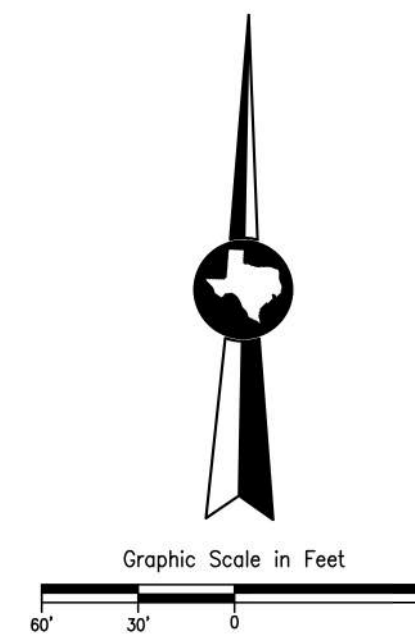
121 S Velasco,
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CITY OF ANGLETON
LIVE OAK RANCH

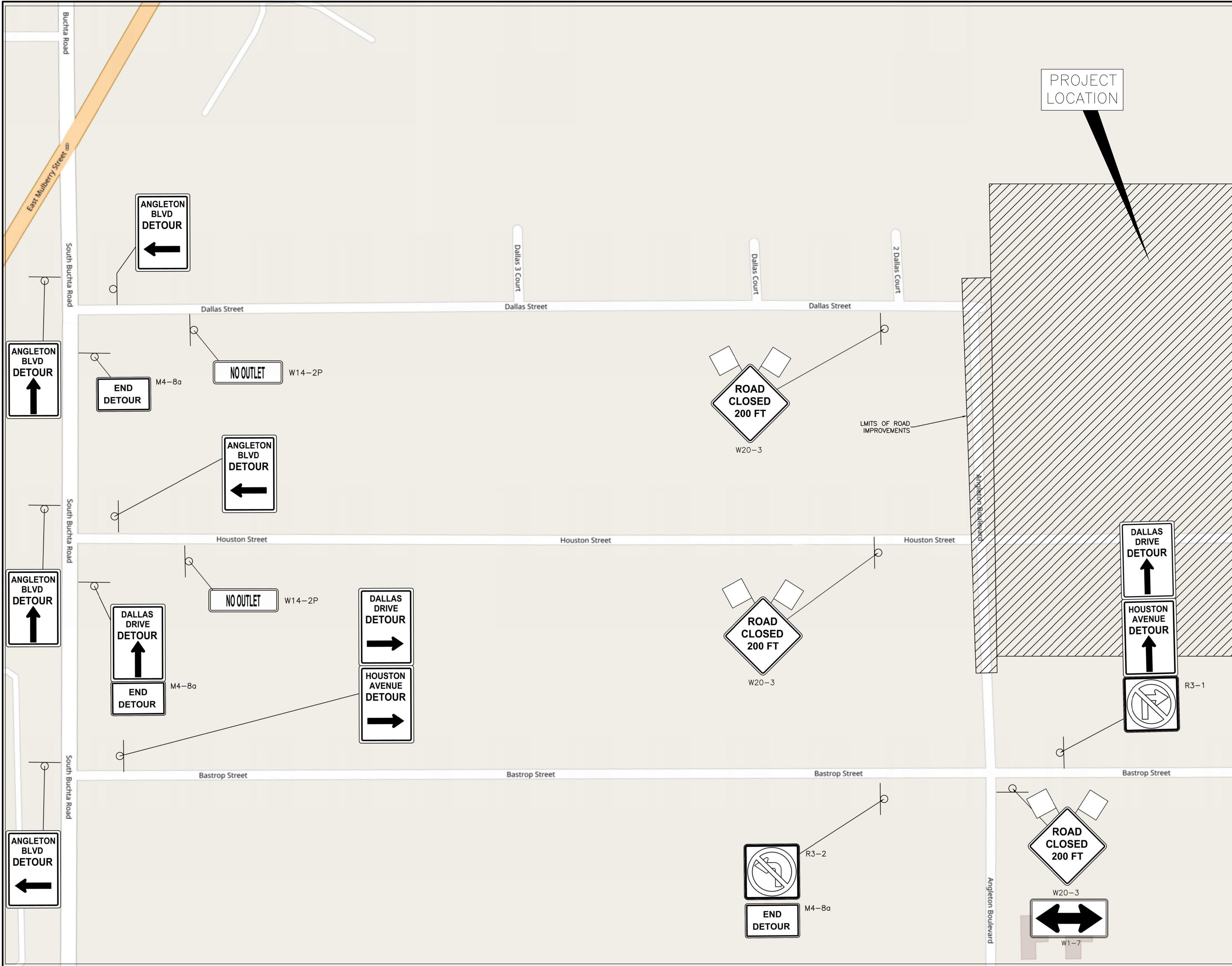
GRADING CROSS SECTIONS

SURV.	MS	DATE	5/22	JOB NO.
DSGN.	NPM	DATE	6/22	21-027-00
DWN.	NPM	DATE	6/22	
CHKD.	MCH	DATE	3/23	IMAGE NO.
APPR.	MCH	DATE	3/23	I-21027000-01

SCALE:	HORIZ.	NIA	VERT.	NIA



PROJECT LOCATION



BENCHMARK(S) / FLOODPLAIN

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**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

CITY OF ANGLETON
LIVE OAK RANCH

**TRAFFIC CONTROL PLAN
LAYOUT**

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
CHKD. MCH. DATE 3/23	
APPR. MCH. DATE 3/23	

SCALE:
HORIZ. 1" = 60'
VERT. N/A

SHEET 15 OF 49 SHEETS

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P.I. @ STA. 5+65.01 ~ ANGLETON BOULEVARD
 P.I. @ STA. 1+06.46 ~ DALLAS DRIVE
 STA. 0+67.84 (22.00' LT)
 1-6" WET CONNECTION
 1-8"x6" REDUCER

1-8" GATE VALVE W/ BOX

STA. 3+76.46 (17.00' LT)
 1-FIRE HYDRANT
 1-6" GATE VALVE W/BOX
 1-8"x6" TEE

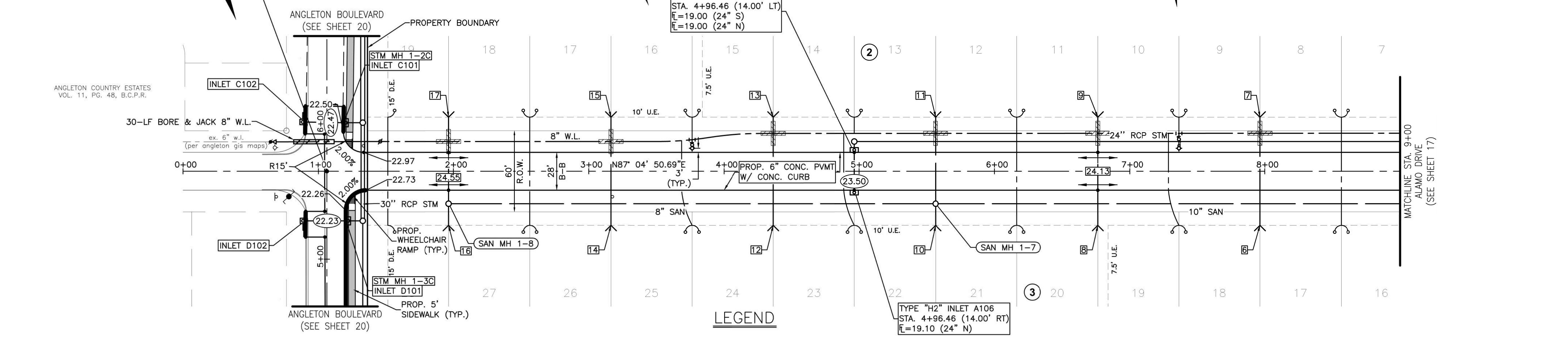
STA. 7+36.46 (17.00' LT)
 1-FIRE HYDRANT
 1-6" GATE VALVE W/ BOX
 1-8"x6" TEE

STM MH 1-4A
 TYPE "H2" INLET A105
 STA. 4+96.46 (14.00' LT)
 E=19.00 (24" S)
 E=19.00 (24" N)

TYPE "H2" INLET A106
 STA. 4+96.46 (14.00' RT)
 E=19.10 (24" N)

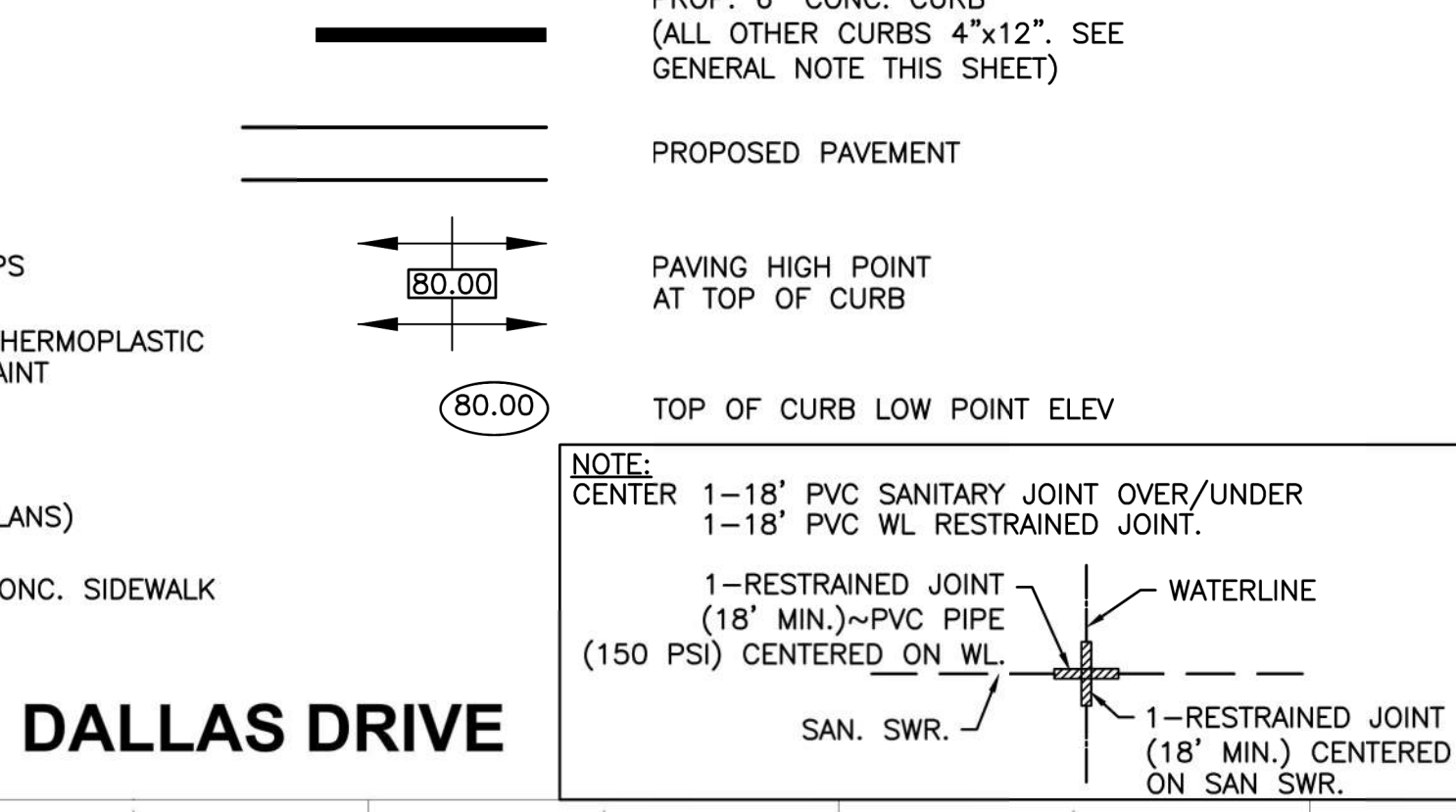
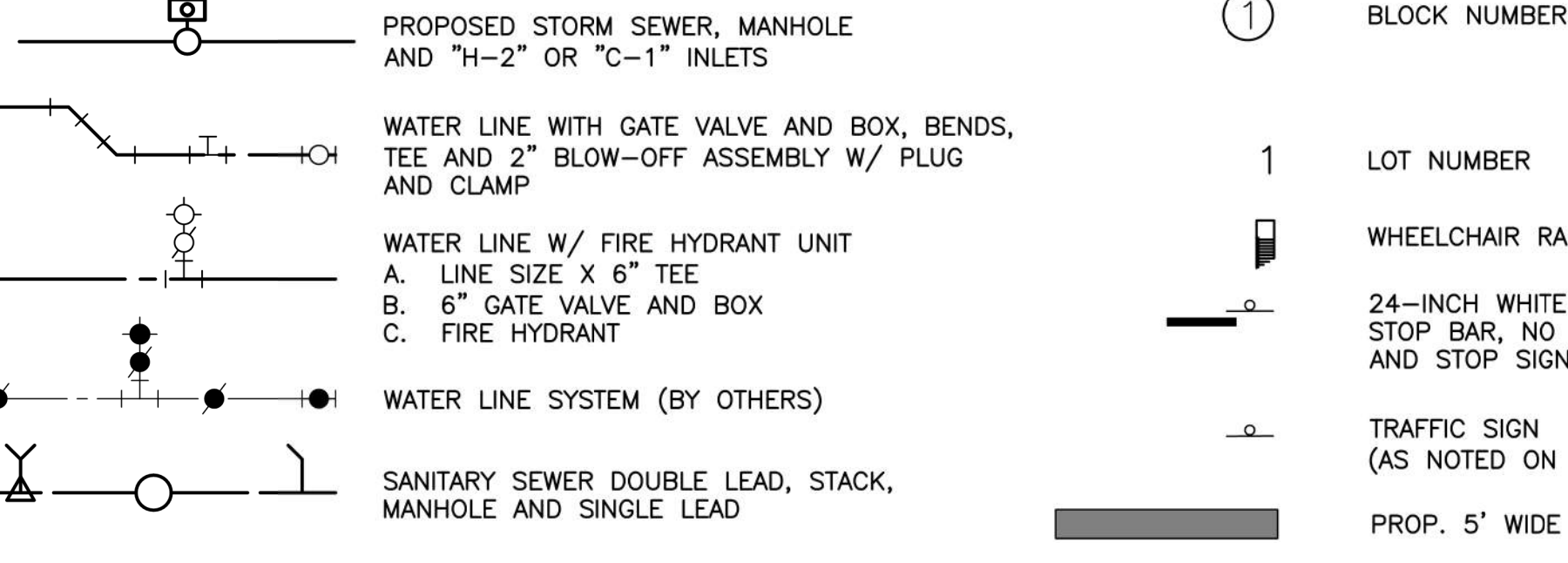


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 - 4"x12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB. (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.) SEE SHEET 8 OF 49 FOR CURB LAYOUT
 - MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
 - CONTRACTOR SHALL FIELD VERIFY FLOW-LINES OF ALL EXISTING SANITARY SEWER, STORM SEWER, AND WATER LINES WHERE TYING IN, AND SHALL COORDINATE WITH THE CITY OF ANGLETON PUBLIC WORKS DEPARTMENT UPON CONNECTION
 - CROSS SLOPE THROUGH CROSSWALK SHALL NOT EXCEED 2% IN ACCORDANCE WITH A.D.A.
 - SPECIAL GEOTECHNICAL NOTE FOR UTILITIES UNDER CUL-DE-SAC AND OR KNUCKLES: ALL UTILITIES UNDER PAVEMENT IN CUL-DE-SAC AND OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE

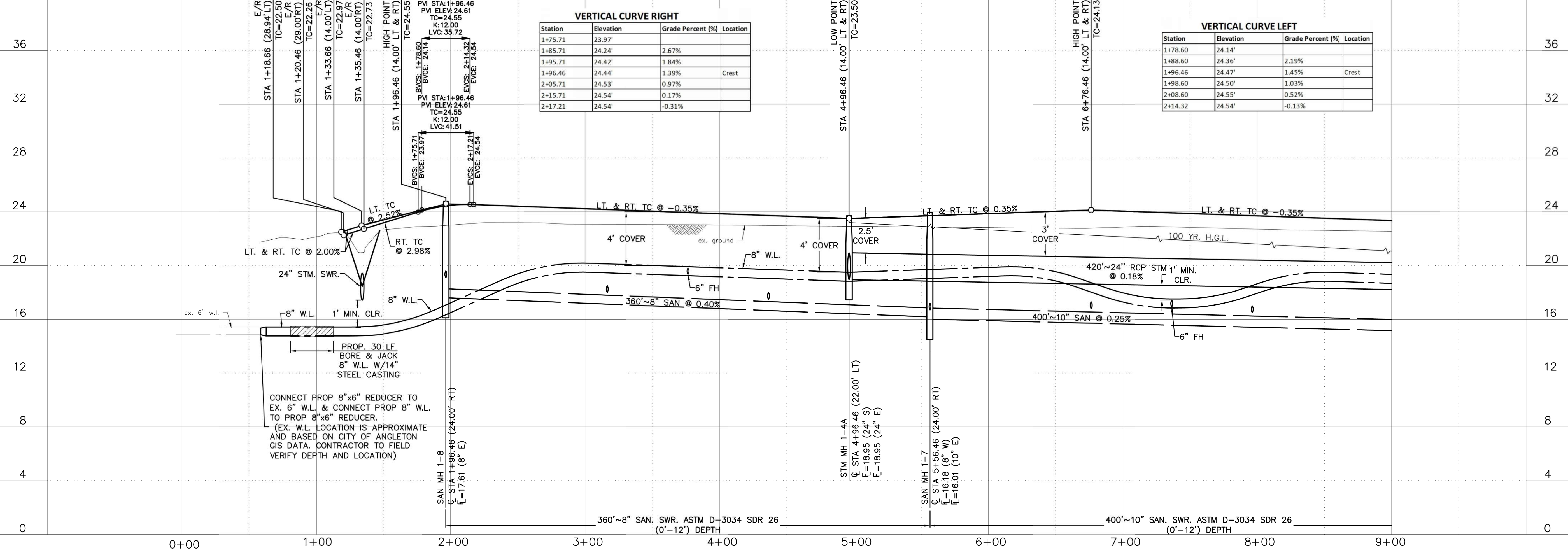


LEAD NO.	STATION (OFFSET)	LENGTH ~ SLOPE	E @ LOT=
6	7+96.46 (40.00' RT)	16.00' ~ 6" @ 1.25%	15.90
7	7+96.46 (40.00' LT)	64.00' ~ 6" @ 1.25%	16.50
8	6+76.46 (40.00' RT)	16.00' ~ 6" @ 1.25%	16.20
9	6+76.46 (40.00' LT)	64.00' ~ 6" @ 1.25%	16.80
10	5+56.46 (40.00' RT)	14.00' ~ 6" @ 1.43%	17.70
11	5+56.46 (40.00' LT)	62.00' ~ 6" @ 0.81%	16.70

LEAD NO.	STATION (OFFSET)	LENGTH ~ SLOPE	E @ LOT=
12	4+36.46 (40.00' RT)	16.00' ~ 6" @ 1.25%	17.10
13	4+36.46 (40.00' LT)	64.00' ~ 6" @ 0.94%	17.50
14	3+16.46 (40.00' RT)	16.00' ~ 6" @ 1.25%	17.60
15	3+16.46 (40.00' LT)	64.00' ~ 6" @ 0.94%	18.00
16	1+96.46 (40.00' RT)	14.00' ~ 6" @ 1.43%	18.80
17	1+96.46 (40.00' LT)	62.00' ~ 6" @ 0.81%	19.10

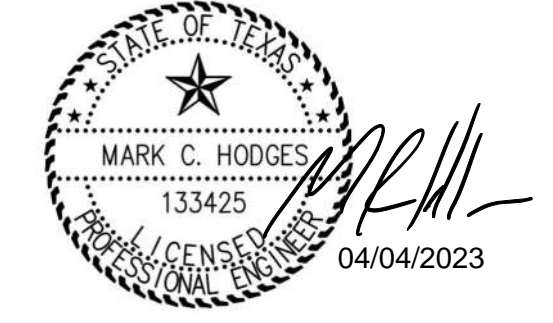


DALLAS DRIVE



APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseyeng.com
 TBPE No. F-17637



**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**

121 S Velasco,
 Angleton, Texas 77515

CITY OF ANGLETON
 LIVE OAK RANCH

**DALLAS DRIVE
 PLAN & PROFILE
 (STA. 0+00 TO 9+00)**

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	1-21027000-01
DWN.	DATE	6/22			
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

SCALE:
 HORIZ. 1" = 40'
 VERT. 1" = 4'

SHEET 16 OF 49 SHEETS

STREET NAME CHANGE
 @ STA. 9+95.77 ~ DALLAS DRIVE
 @ STA. 9+95.77 ~ ALAMO DRIVE
 CENTER OF KNUCKLE ~ ALAMO DRIVE
 STA. 9+95.77, 5.00' LT

STA. 10+06.39 (55.51' LT)
 1-FIRE HYDRANT
 1-6" GATE VALVE W/ BOX
 1-8"x6" TEE

Q CURVE DATA
 STA. 9+56.50 TO
 STA. 10+35.05
 L=90'01"02"
 R=50.00
 L=78.55
 T=50.02

STM MH 1-3A
 TYPE "H2" INLET A103
 STA. 9+16.46 (14.00' LT)
 E=18.40 (24" S)
 E=18.40 (24" N)

1-8"x8" TEE
 1-8" GATE VALVE W/ BOX

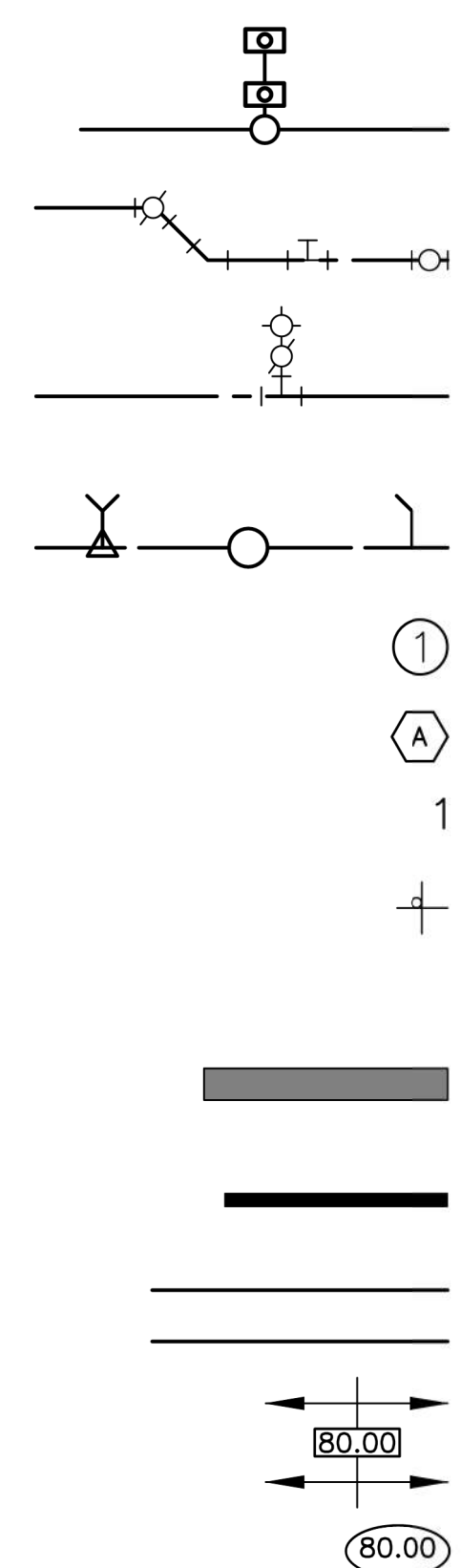
STM MH 1-1A
 TYPE "C1" INLET A101
 STA. 11+81.07 (14.00' LT)
 E=18.00 (24" W)
 E=18.00 (24" E)

STREET NAME CHANGE
 @ STA. 13+04.31 ~ ALAMO DRIVE
 @ STA. 13+04.31 ~ HOUSTON AVENUE
 CENTER OF KNUCKLE ~ ALAMO DRIVE
 STA. 13+04.31, 6.00' LT

STA. 12+93.97 (56.60' LT)
 1-FIRE HYDRANT
 1-6" GATE VALVE W/ BOX
 1-8"x6" TEE
 3-8" 45' BENDS
 2-8" 22.5' BENDS

Q CURVE DATA
 STA. 12+65.05 TO
 STA. 13+43.58
 L=89'58"58"
 R=50.00
 L=78.52
 T=49.98

LEGEND



PROPOSED STORM SEWER, MANHOLE AND "H-2" OR "C-1" INLETS

WATER LINE WITH GATE VALVE AND BOX, BENDS, TEE AND 2" BLOW-OFF ASSEMBLY W/ PLUG AND CLAMP

WATER LINE W/ FIRE HYDRANT UNIT
 A. LINE SIZE X 6" TEE
 B. 6" GATE VALVE AND BOX
 C. FIRE HYDRANT

SANITARY SEWER DOUBLE LEAD, STACK, MANHOLE AND SINGLE LEAD

GENERAL NOTES:

- ALL T.C. ELEVATIONS SHOWN ON PLAN AND PROFILE ARE BASED ON 6" CURB. TO OBTAIN 4"x12" CURB ELEVATION, SUBTRACT 0.17'.
- 4"x12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB. (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.) SEE SHEET 8 OF 49 FOR CURB LAYOUT
- MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
- CONTRACTOR SHALL FIELD VERIFY FLOW-LINES OF ALL EXISTING SANITARY SEWER, STORM SEWER, AND WATER LINES WHERE TYING IN.
- CROSS SLOPE THROUGH CROSSWALK SHALL NOT EXCEED 2% IN ACCORDANCE WITH A.D.A.
- SPECIAL GEOTECHNICAL NOTE FOR UTILITIES UNDER CUL-DE-SAC AND OR KNUCKLES: ALL UTILITIES UNDER PAVEMENT IN CUL-DE-SAC AND OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE

BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
 ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.

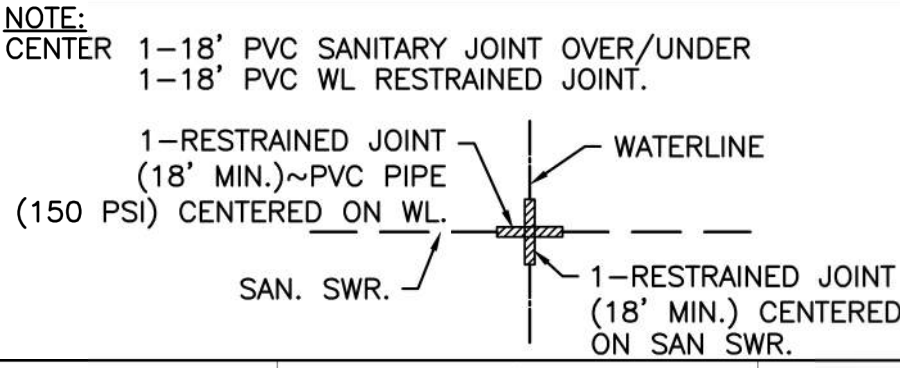
TEMPORARY BENCHMARK-A:
 TEMPORARY BENCHMARK "A" BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)

TEMPORARY BENCHMARK-B:
 TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 23.36 FEET, (NAVD83, 2001 ADJUSTMENT)

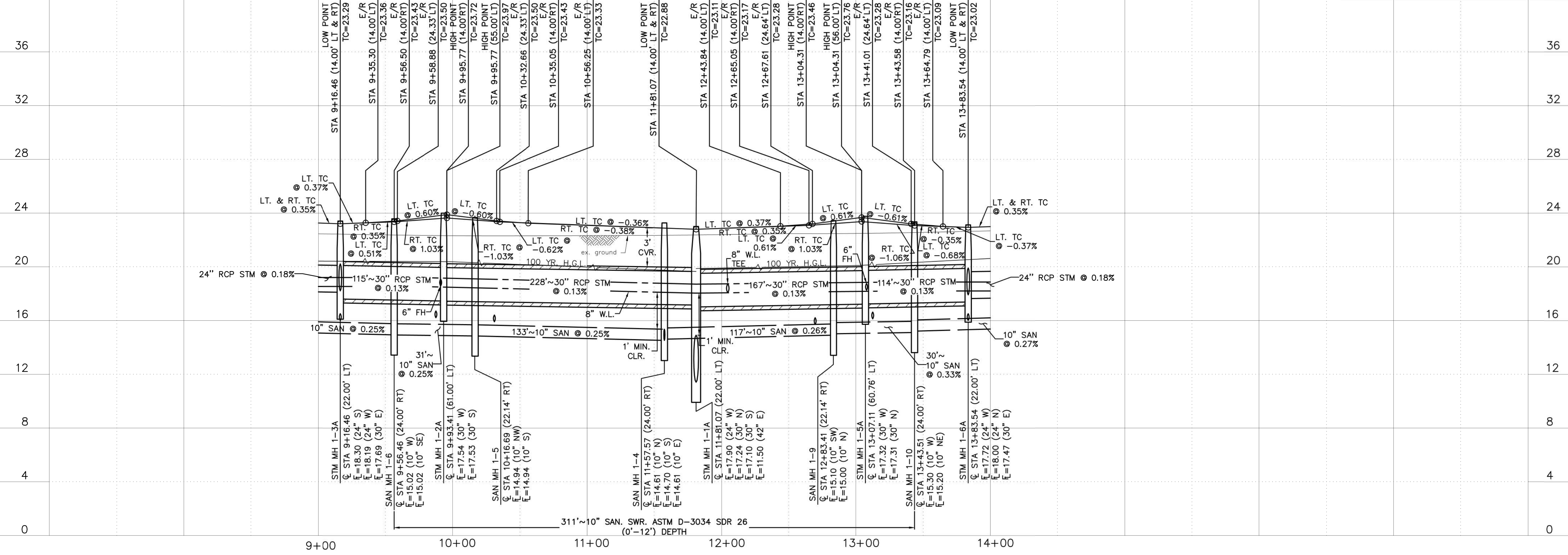
FLOODPLAIN:
 ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0000E EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

LEAD NO.	STATION (OFFSET)	LENGTH ~ SLOPE	E @ LOT=
1	11+37.57 (40.00' LT)	20.00' ~ 6" @ 1.00%	15.00
2	10+31.00 (52.17' LT)	73.85' ~ 6" @ 0.81%	16.00
3	9+87.68 (73.72' LT)	101.76' ~ 6" @ 0.79%	16.30
4	9+16.46 (40.00' LT)	73.47' ~ 6" @ 0.82%	16.10
5	9+16.46 (40.00' RT)	16.00' ~ 6" @ 1.25%	15.60

LEAD NO.	STATION (OFFSET)	LENGTH ~ SLOPE	E @ LOT=
18	12+69.67 (53.26' LT)	74.83' ~ 6" @ 0.94%	15.80
19	13+12.54 (74.64' LT)	102.56' ~ 6" @ 0.70%	16.22
20	13+83.54 (40.00' LT)	73.47' ~ 6" @ 0.82%	16.10
21	13+83.54 (40.00' RT)	16.00' ~ 6" @ 1.25%	16.00



ALAMO DRIVE



APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
 2500 Tanglewilde Street, Suite 300
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 t: 281.306.0240 | www.odysseyeg.com
 TBPE No. F-17637



**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**

121 S Velasco,
 Angleton, Texas 77515

**CITY OF ANGLETON
 LIVE OAK RANCH**

**ALAMO DRIVE PLAN & PROFILE
 (STA. 9+00 TO 14+00)**

SURV.	DATE	5/22	JOB NO.	21-027-00
DSGN.	DATE	6/22	IMAGE NO.	
CHDK.	DATE	3/23		
APPR.	DATE	3/23		

SCALE:
 HORIZ. 1" = 40'
 VERT. 1" = 4'

SHEET 17 OF 49 SHEETS

SANITARY LEADS			
LEAD NO.	STATION (OFFSET)	LENGTH ~ SLOPE	ℓ @ LOT=
22	15+03.54 (40.00' RT)	16.00' ~ 6" @ 1.25%	16.30
23	15+03.54 (40.00' LT)	64.00' ~ 6" @ 0.78%	16.60
24	16+23.54 (40.00' RT)	16.00' ~ 6" @ 1.25%	16.60
25	16+23.54 (40.00' LT)	64.00' ~ 6" @ 0.78%	16.90
26	17+43.54 (40.00' RT)	14.00' ~ 6" @ 1.43%	17.20
27	17+43.54 (40.00' LT)	62.00' ~ 6" @ 0.71%	17.14

SANITARY LEADS			
LEAD NO.	STATION (OFFSET)	LENGTH ~ SLOPE	ℓ @ LOT=
28	18+63.54 (40.00' RT)	16.00' ~ 6" @ 1.25%	17.50
29	18+63.54 (40.00' LT)	64.00' ~ 6" @ 0.78%	17.80
30	19+83.54 (40.00' RT)	16.00' ~ 6" @ 1.25%	18.00
31	19+83.54 (40.00' LT)	64.00' ~ 6" @ 0.78%	18.30
32	21+03.54 (40.00' RT)	14.00' ~ 6" @ 1.43%	18.70
33	21+03.54 (40.00' LT)	62.00' ~ 6" @ 0.81%	19.00

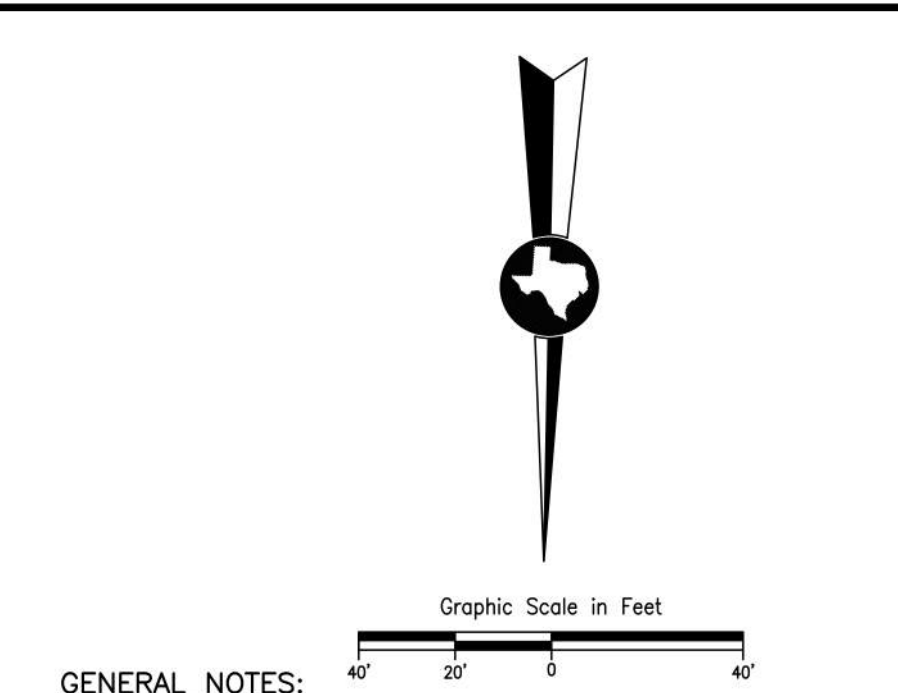
STA. 15+63.54 (17.00' LT)
1-FIRE HYDRANT
1-6" GATE VALVE W/ BOX
1-8"x6" TEE

STA. 19+23.54 (17.00' LT)
1-FIRE HYDRANT
1-6" GATE VALVE W/ BOX
1-8"x6" TEE

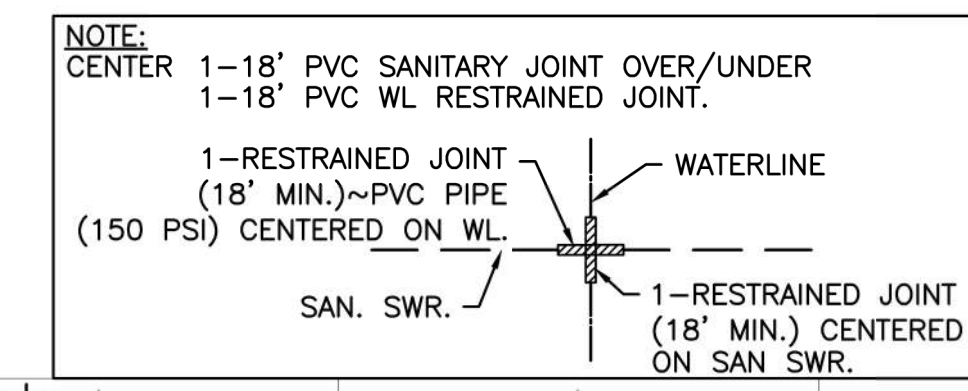
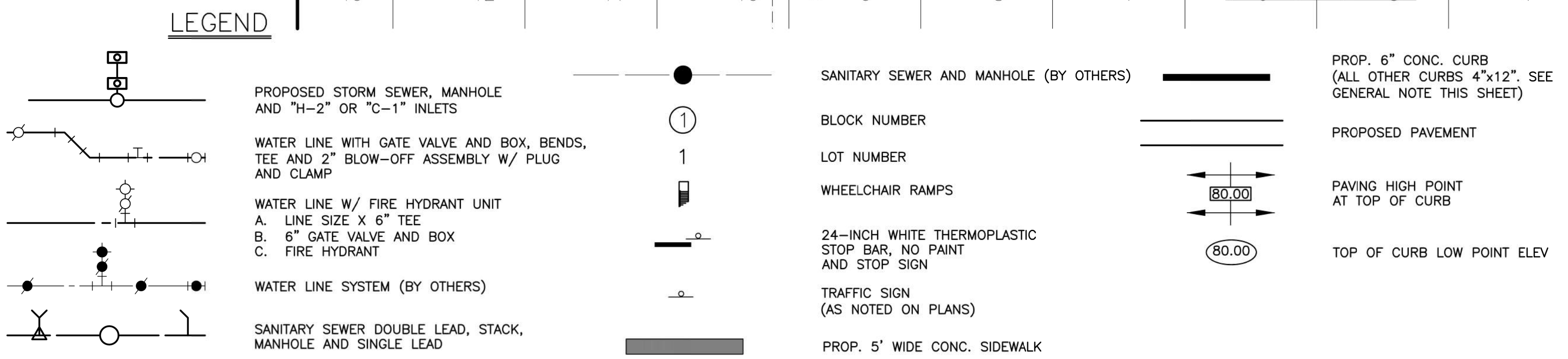
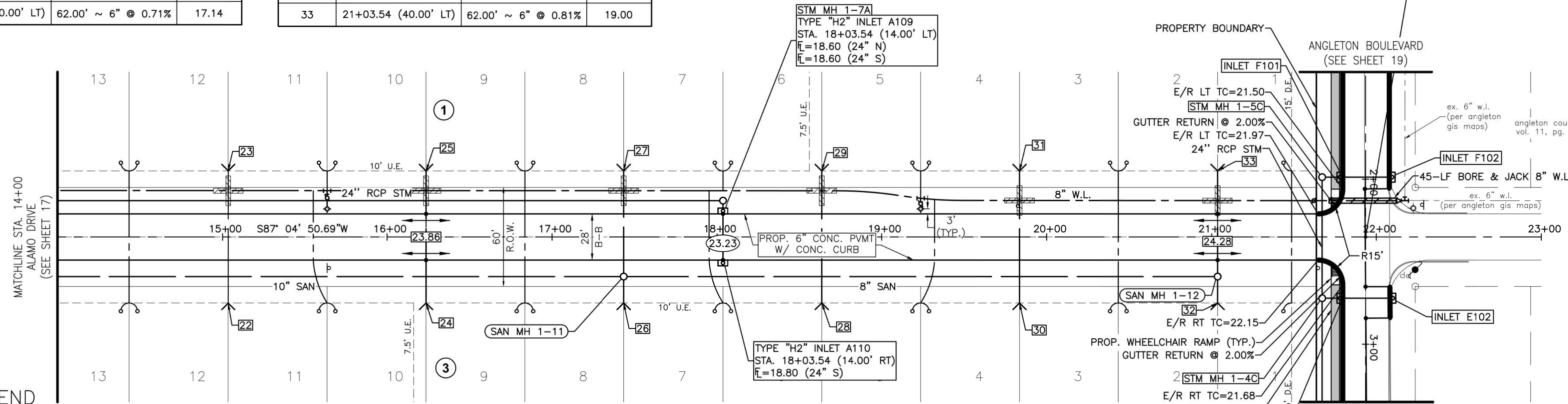
1-8" GATE VALVE W/ BOX

P.I. @ STA. 21+93.54 ~ HOUSTON AVENUE
= P.I. @ STA. 2+35.01 ~ ANGLETON BOULEVARD

1-6"x6" TEE
1-6" WET CONNECTION
1-8"x6" REDUCER



- GENERAL NOTES:**
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 - MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
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BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.

TEMPORARY BENCHMARK-A:
TEMPORARY BENCHMARK "A" BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)

TEMPORARY BENCHMARK-B:
TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)

FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400E EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

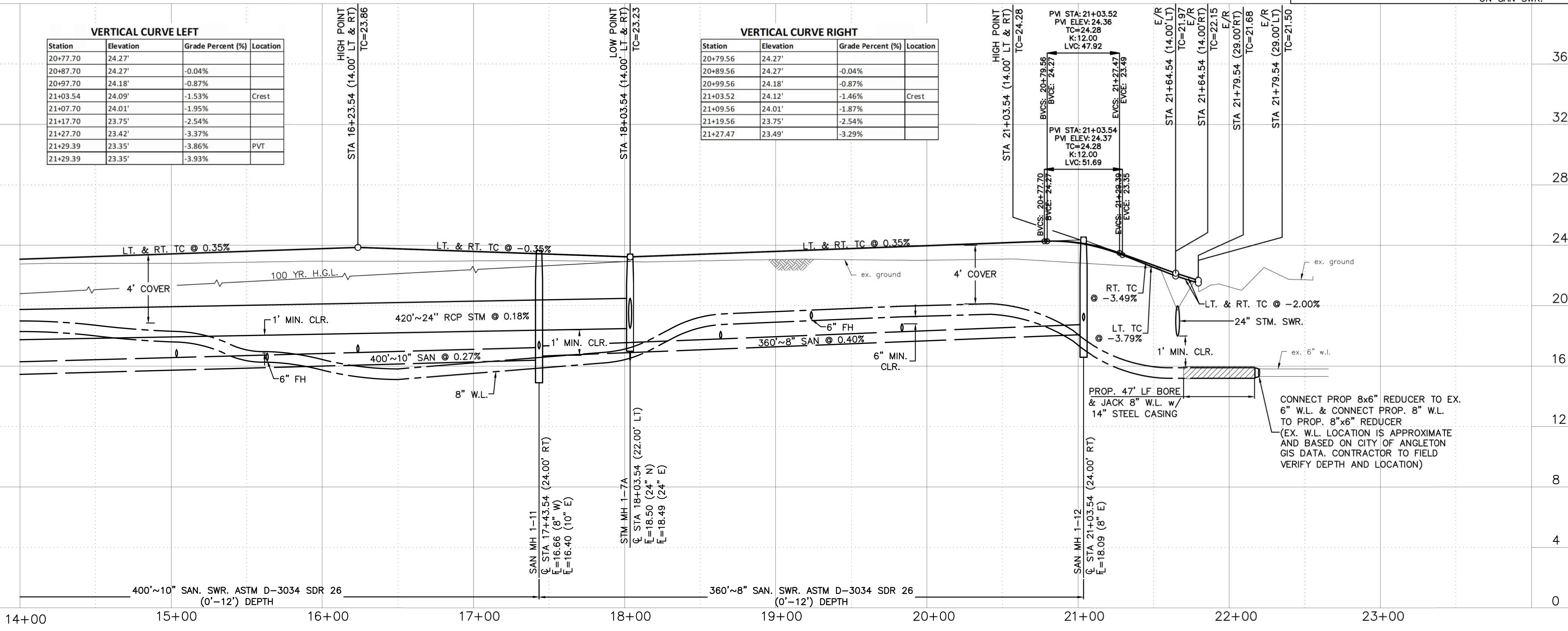
APPR.	REVISION	DATE

VERTICAL CURVE LEFT

Station	Elevation	Grade Percent (%)	Location
20+77.70	24.27'		
20+87.70	24.27'	-0.04%	
20+97.70	24.18'	-0.87%	
21+03.54	24.09'	-1.53%	Crest
21+07.70	24.01'	-1.95%	
21+17.70	23.75'	-2.54%	
21+27.70	23.42'	-3.37%	
21+29.39	23.35'	-3.86%	PVT
21+29.39	23.35'	-3.93%	

VERTICAL CURVE RIGHT

Station	Elevation	Grade Percent (%)	Location
20+79.56	24.27'		
20+89.56	24.27'	-0.04%	
20+99.56	24.18'	-0.87%	
21+03.52	24.12'	-1.46%	Crest
21+09.56	24.01'	-1.87%	
21+19.56	23.75'	-2.54%	
21+27.47	23.49'	-3.29%	



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BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

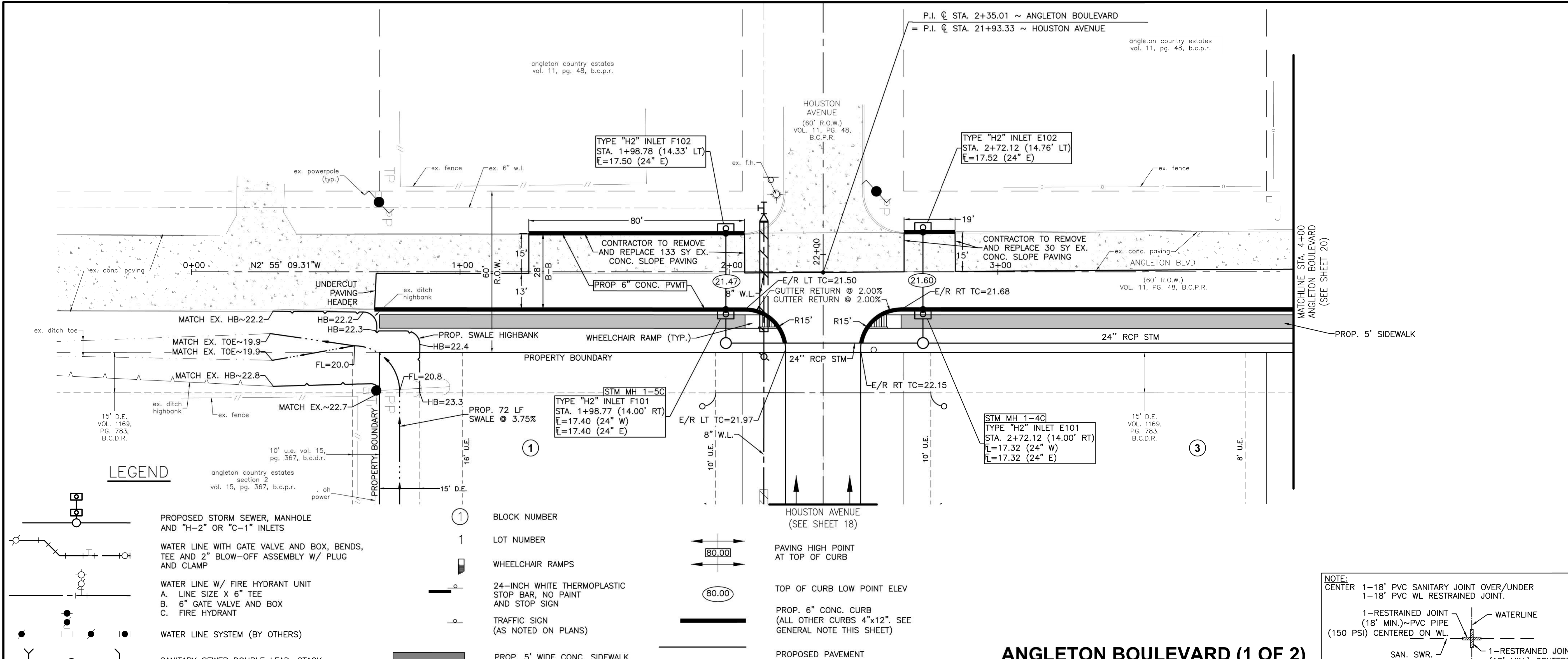
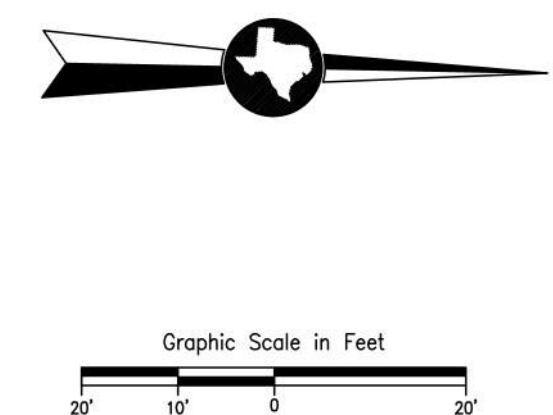
**CITY OF ANGLETON
LIVE OAK RANCH**

**HOUSTON AVENUE
PLAN & PROFILE
(STA. 14+00 TO 23+00)**

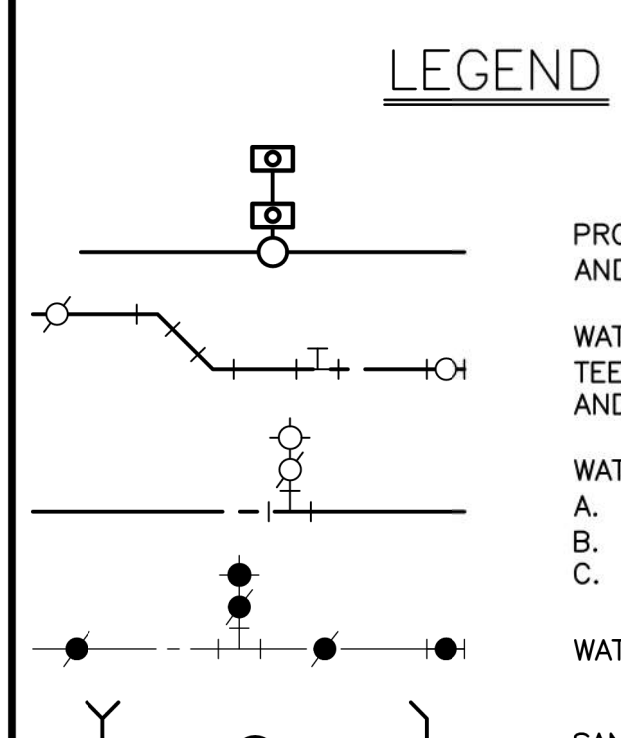
SURV.	MS	DATE	5/22	JOB NO.
DSGN.	NPM	DATE	6/22	21-027-00
DWIN	DATE	6/22	IMAGE NO.	
CHKD.	MCH	DATE	3/23	1-21027000-01
APPR.	MCH	DATE	3/23	

SCALE:
HORIZ. 1" = 40'
VERT. 1" = 4'

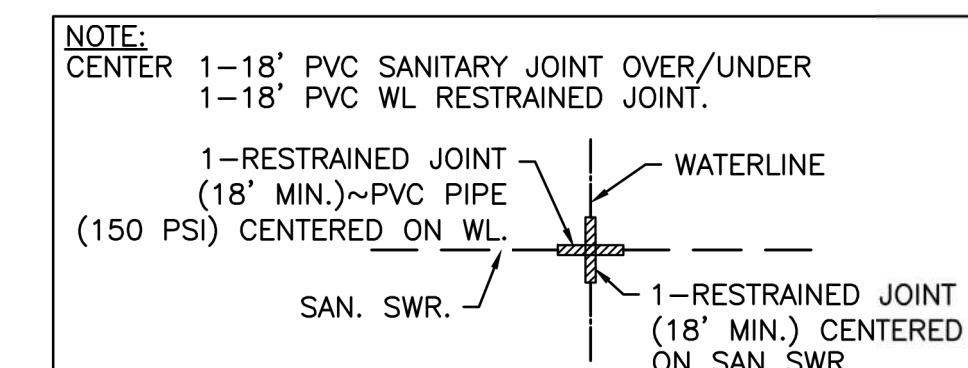
SHEET 18 OF 49 SHEETS



- GENERAL NOTES:**
- ALL T.C. ELEVATIONS SHOWN ON PLAN AND PROFILE ARE BASED ON 6" CURB. TO OBTAIN 4"x12" CURB ELEVATION, SUBTRACT 0.17'.
 - 4"x12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB. (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.) SEE SHEET 8 OF 49 FOR CURB LAYOUT.
 - MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
 - CONTRACTOR SHALL FIELD VERIFY FLOW-LINES OF ALL EXISTING SANITARY SEWER, STORM SEWER, AND WATER LINES WHERE TYING IN.
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- 1 BLOCK NUMBER
- 1 LOT NUMBER
- WHEELCHAIR RAMPS
- 24-INCH WHITE THERMOPLASTIC STOP BAR, NO PAINT AND STOP SIGN
- TRAFFIC SIGN (AS NOTED ON PLANS)
- PROP. 5' WIDE CONC. SIDEWALK
- PAVING HIGH POINT AT TOP OF CURB
- TOP OF CURB LOW POINT ELEV
- PROP. 6" CONC. CURB (ALL OTHER CURBS 4"x12". SEE GENERAL NOTE THIS SHEET)
- PROPOSED PAVEMENT



BENCHMARK(S) / FLOODPLAIN

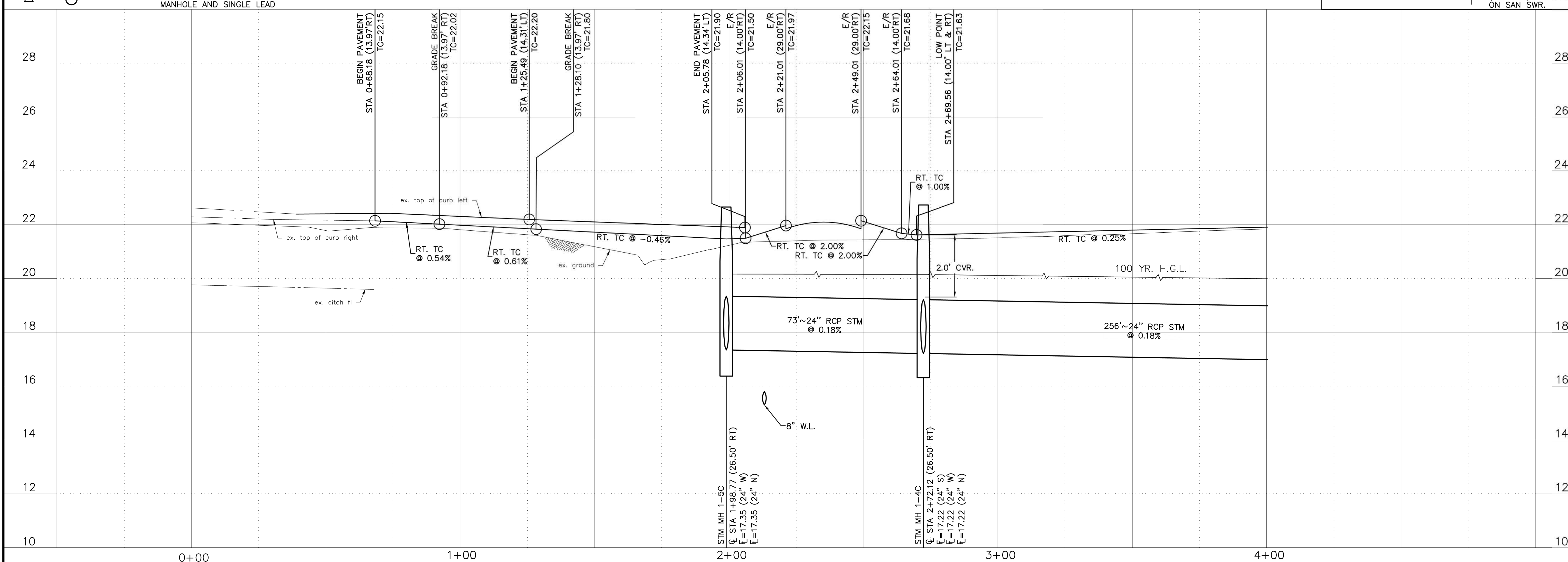
BENCHMARK:
ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.

TEMPORARY BENCHMARK-A:
TEMPORARY BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)

TEMPORARY BENCHMARK-B:
TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)

FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400 EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE



ODYSSEY ENGINEERING GROUP
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**CITY OF ANGLETON
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121 S Velasco,
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**CITY OF ANGLETON
LIVE OAK RANCH**

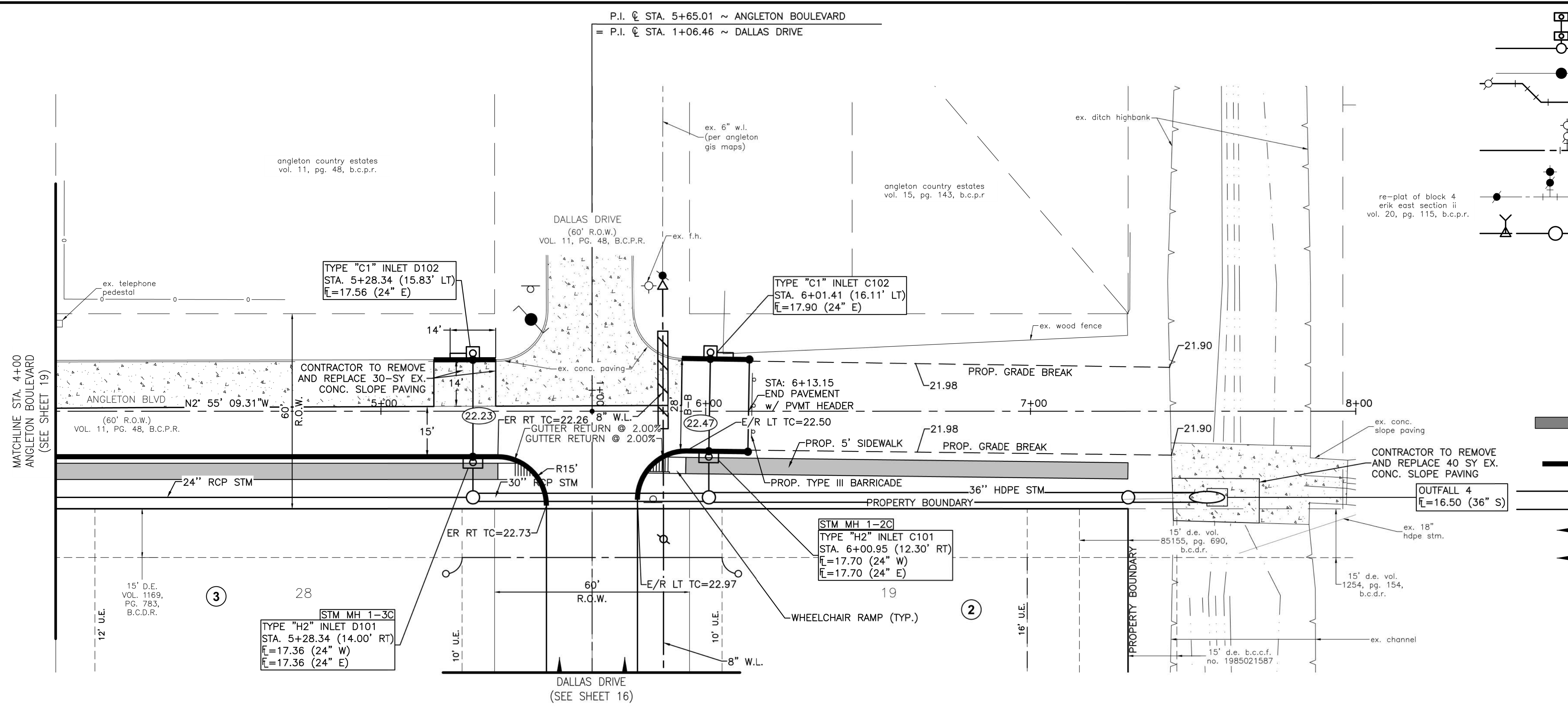
**ANGLETON BOULEVARD PLAN
& PROFILE (STA. 0+00 TO 4+00)**

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	1-21027000-01
DWN.	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

SCALE:
HORIZ. 1" = 20'
VERT. 1" = 2'

SHEET 19 OF 49 SHEETS

0:\21-027-00\Drawings\Plan\Profiles\21027000-PP-ANGLETON BOULEVARD - (STA. 0+00-4+00).dwg (Rev. 01, 2023-1-15pm) Edited by: Nitarsapath

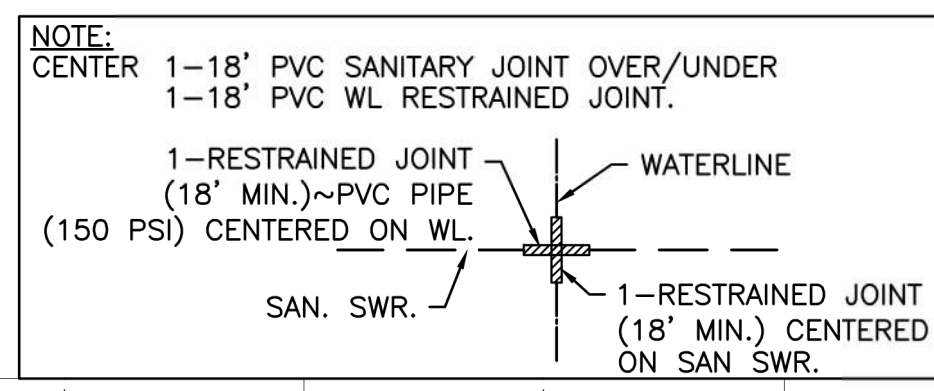


LEGEND

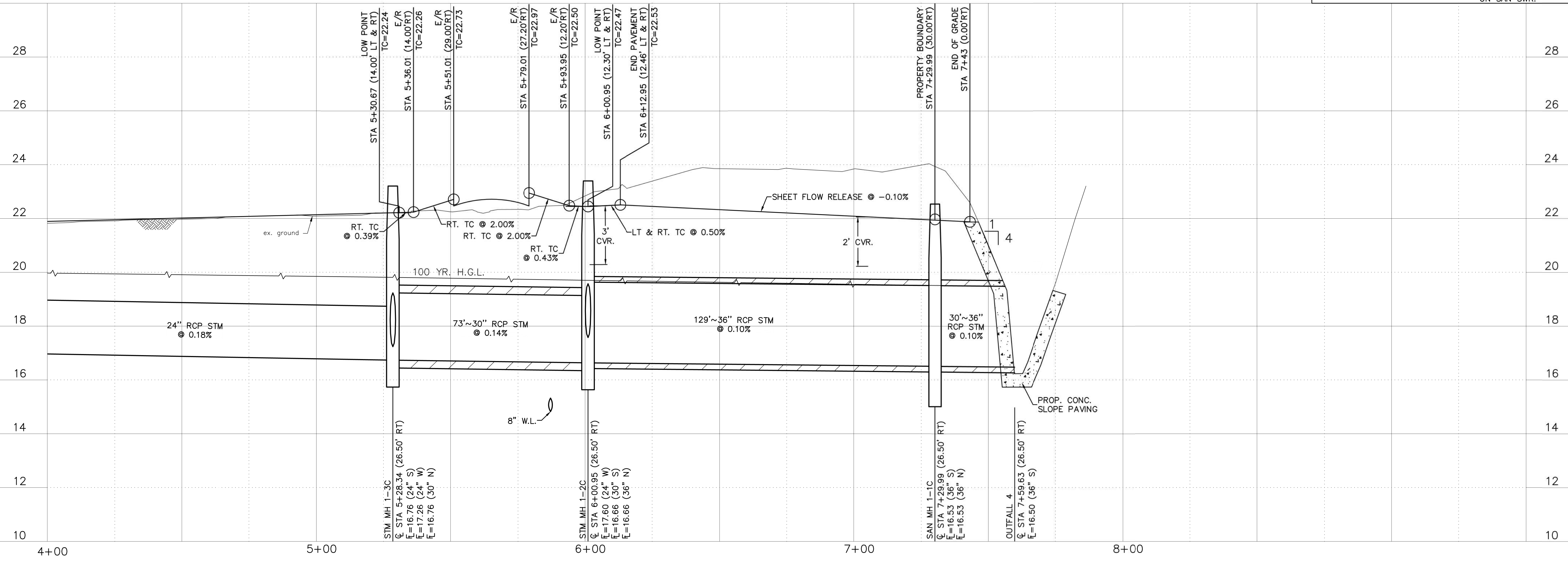
- PROPOSED STORM SEWER, MANHOLE AND "H-2" OR "C-1" INLETS
- EXISTING STORM SEWER AND MANHOLE
- WATER LINE WITH GATE VALVE AND BOX, BENDS, TEE AND 2" BLOW-OFF ASSEMBLY W/ PLUG AND CLAMP
- WATER LINE W/ FIRE HYDRANT UNIT
 - A. LINE SIZE X 6" TEE
 - B. 6" GATE VALVE AND BOX
 - C. FIRE HYDRANT
- WATER LINE SYSTEM (BY OTHERS)
- SANITARY SEWER DOUBLE LEAD, STACK, MANHOLE AND SINGLE LEAD
- BLOCK NUMBER
- LOT NUMBER
- WHEELCHAIR RAMPS
- 24-INCH WHITE THERMOPLASTIC STOP BAR, NO PAINT AND STOP SIGN
- TRAFFIC SIGN (AS NOTED ON PLANS)
- PROP. 5' WIDE CONC. SIDEWALK
- PROP. 6" CONC. CURB (ALL OTHER CURBS 4"x12". SEE GENERAL NOTE THIS SHEET)
- PROPOSED PAVEMENT
- PAVING HIGH POINT AT TOP OF CURB
- TOP OF CURB LOW POINT ELEV

GENERAL NOTES:

- ALL T.C. ELEVATIONS SHOWN ON PLAN AND PROFILE ARE BASED ON 6" CURB. TO OBTAIN 4"x12" CURB ELEVATION, SUBTRACT 0.17'.
- 4"x12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB. (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.) SEE SHEET 8 OF 49 FOR CURB LAYOUT
- MANHOLE RIM ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES CONTRACTOR SHALL ADJUST MANHOLE RIM TO 0.3' ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED IN PLANS OR REQUIRED BY GOVERNING AGENCIES.)
- CONTRACTOR SHALL FIELD VERIFY FLOW-LINES OF ALL EXISTING SANITARY SEWER, STORM SEWER, AND WATER LINES WHERE TYING IN.
- CROSS SLOPE THROUGH CROSSWALK SHALL NOT EXCEED 2% IN ACCORDANCE WITH A.D.A.
- SPECIAL GEOTECHNICAL NOTE FOR UTILITIES UNDER CUL-DE-SAC AND OR KNUCKLES: ALL UTILITIES UNDER PAVEMENT IN CUL-DE-SAC AND OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE



ANGLETON BOULEVARD (2 OF 2)



BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.

TEMPORARY BENCHMARK-A:
TEMPORARY BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET. (NAVD83, 2001 ADJUSTMENT)

TEMPORARY BENCHMARK-B:
TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET. (NAVD83, 2001 ADJUSTMENT)

FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030404K EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637

MARK C. HODGE
133425
04/04/2023

**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

CITY OF ANGLETON
LIVE OAK RANCH

**ANGLETON BOULEVARD PLAN
& PROFILE (STA. 4+00 TO 8+00)**

SURV.	MS	DATE	5/22	JOB NO.
DSGN.	NPM	DATE	6/22	21-027-00
DWN.	NPM	DATE	6/22	
CHKD.	MCH	DATE	6/22	
APPR.	MCH	DATE	3/23	

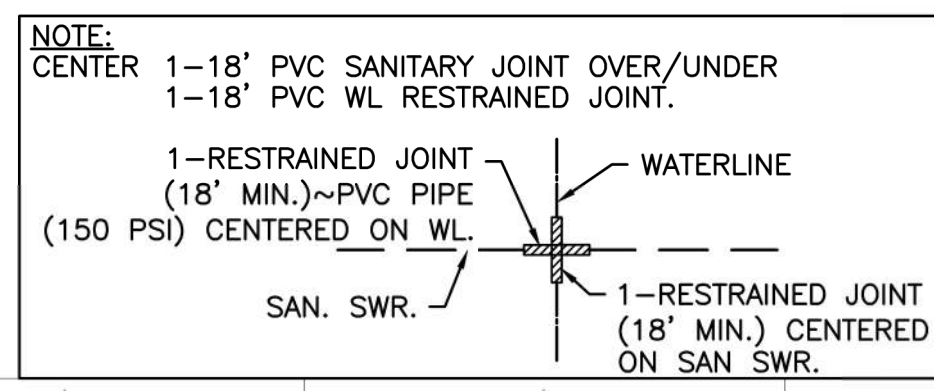
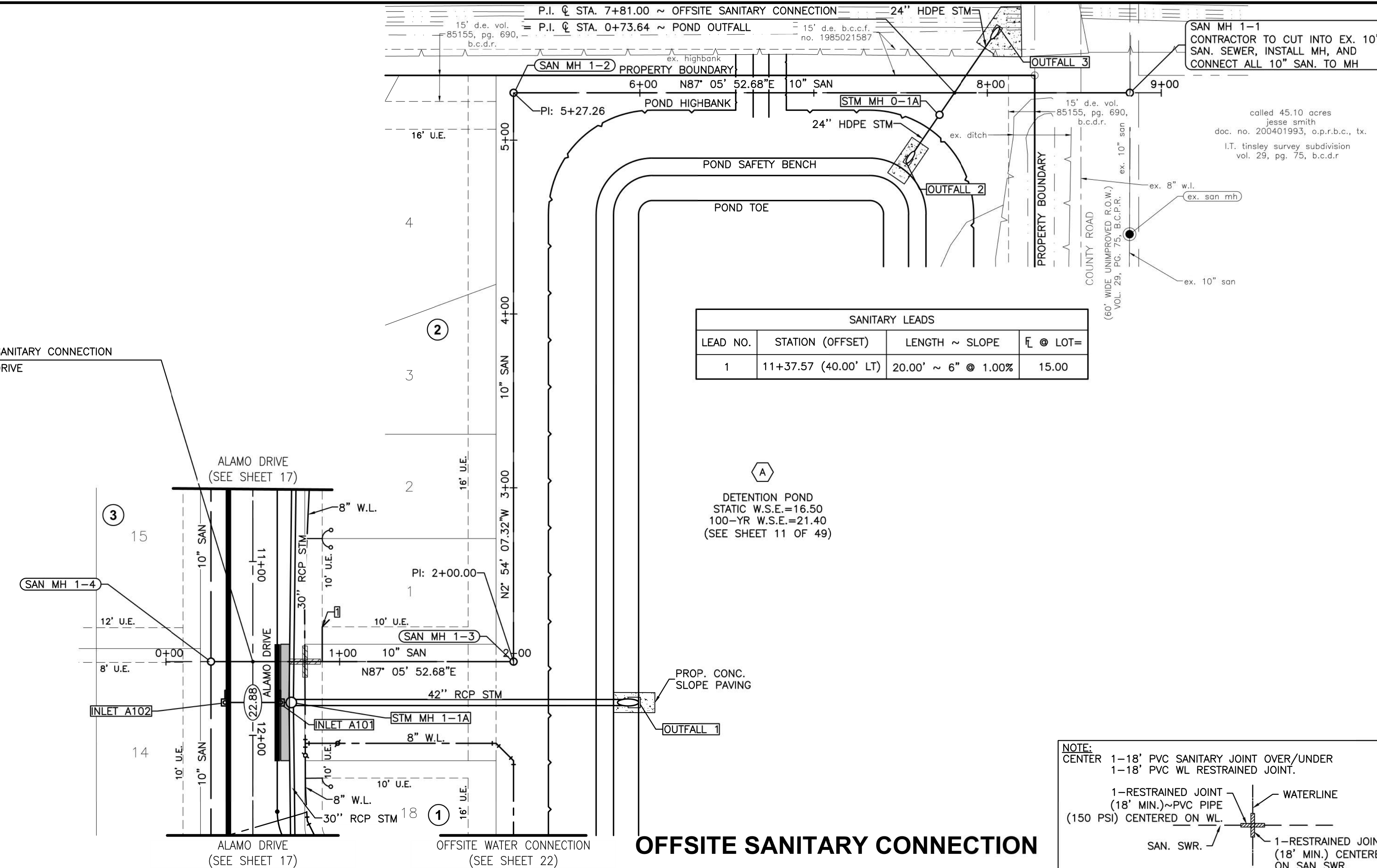
SCALE:
HORIZ. 1" = 20'
VERT. 1" = 2'

SHEET 20 OF 49 SHEETS

LEGEND

- PROPOSED STORM SEWER, MANHOLE AND "H-2" OR "C-1" INLETS
- WATER LINE W/ GATE VALVE AND BOX, BENDS, TEE, AND 2" BLOW-OFF ASSEMBLY W/ PLUG AND CLAMP
- WATER LINE W/ FIRE HYDRANT UNIT
A. LINE SIZE X 6" TEE
B. 6" GATE VALVE AND BOX
C. FIRE HYDRANT
- WATER LINE SYSTEM (BY OTHERS)
- SANITARY SEWER DOUBLE LEAD, STACK, MANHOLE AND SINGLE LEAD
- SANITARY SEWER AND MANHOLE (BY OTHERS)
- BLOCK NUMBER
- RESERVE
- LOT NUMBER
- PROP. 5' WIDE CONC. SIDEWALK
- PROP. 6" CONC. CURB (ALL OTHER CURBS 4"x12". SEE GENERAL NOTE THIS SHEET)
- PROPOSED PAVEMENT
- TOP OF CURB LOW POINT ELEV

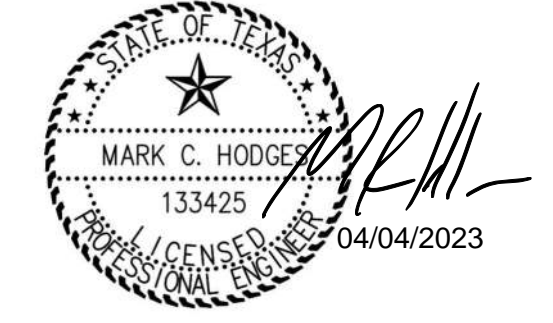
P.I. @ STA. 0+50.00 ~ OFFSITE SANITARY CONNECTION
 = P.I. @ STA. 11+57.57 ~ ALAMO DRIVE



- GENERAL NOTES:**
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BENCHMARK(S) / FLOODPLAIN		
BENCHMARK: ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.		
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FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C040K, EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO BE WITHIN UNSHADED ZONE "X".		
APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseyeg.com
 TBPE No. F-17637



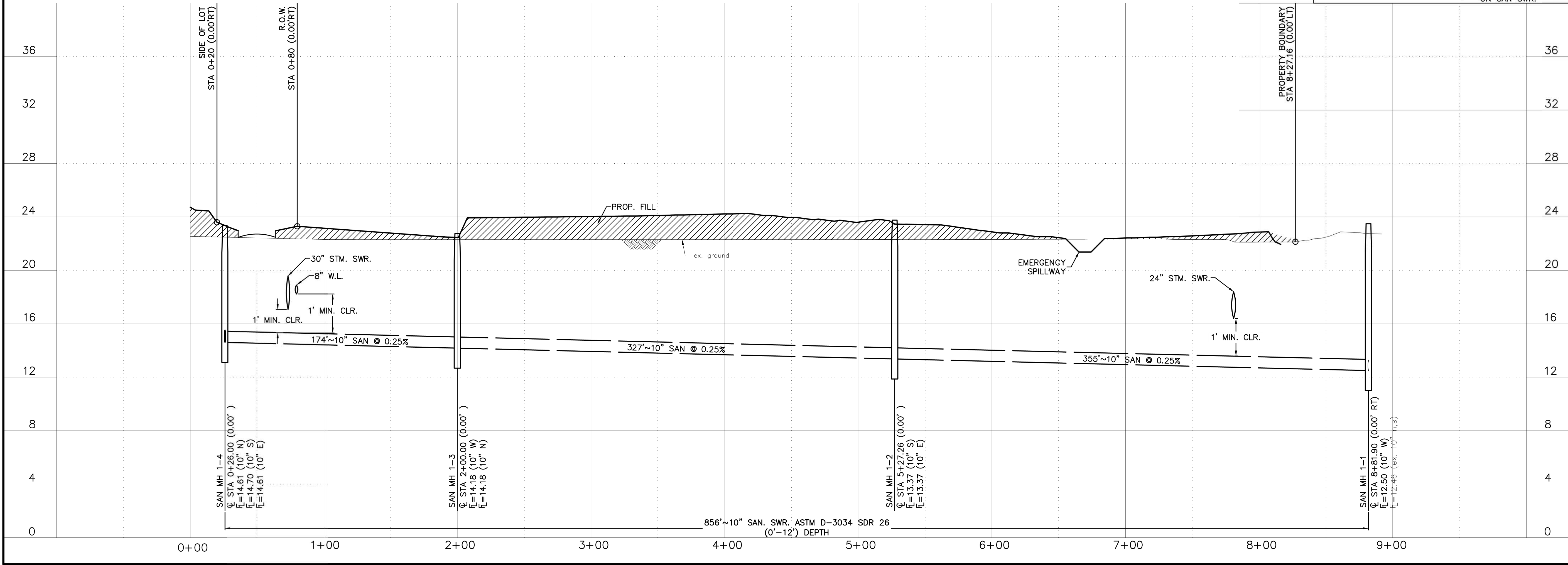
**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**

121 S Velasco,
 Angleton, Texas 77515

CITY OF ANGLETON
 LIVE OAK RANCH

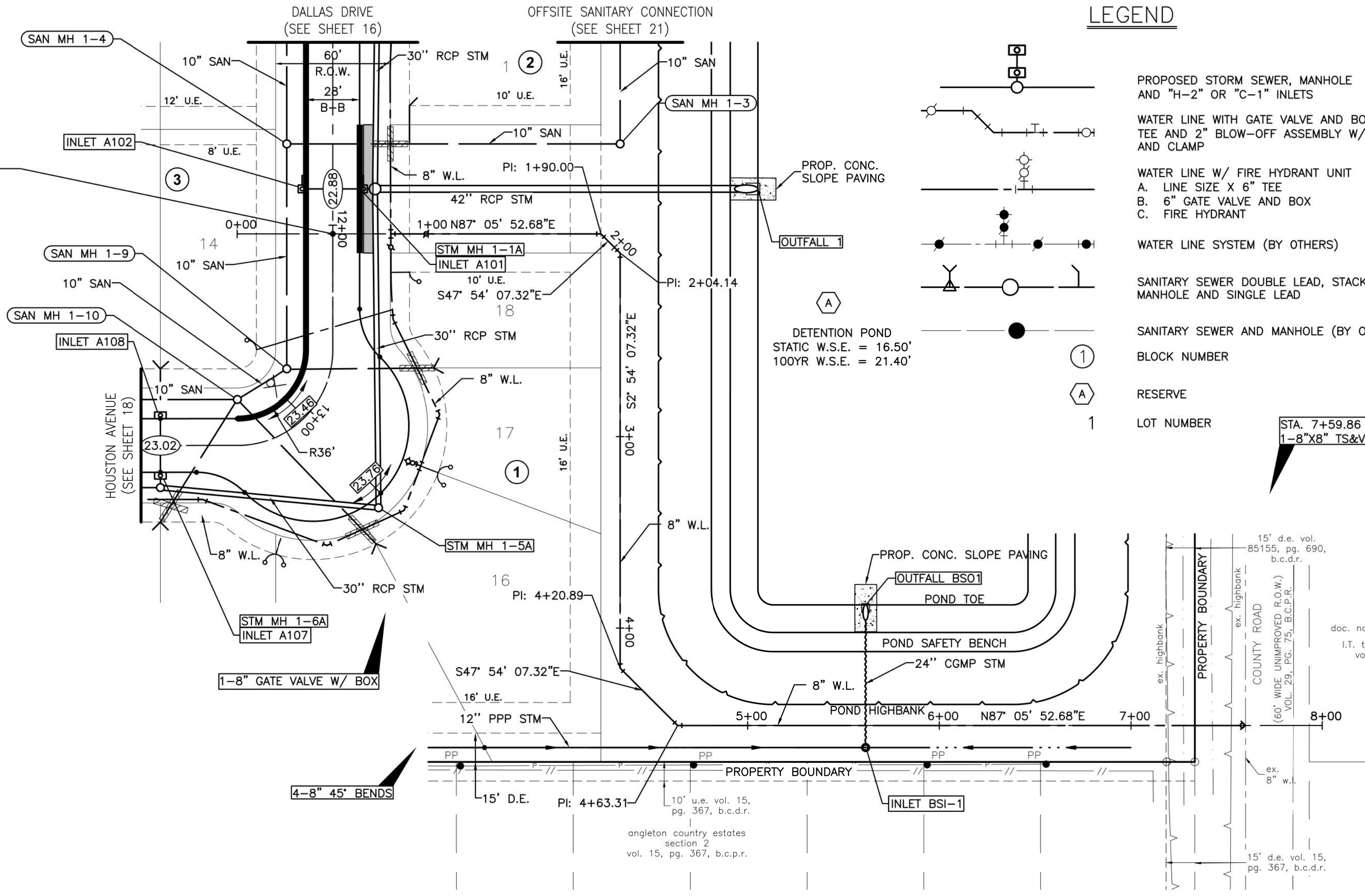
**OFFSITE SANITARY CONNECTION
 PLAN & PROFILE**

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
CHDK. MCH. DATE 3/23	
APPR. MCH. DATE 3/23	
SCALE: HORIZ. 1" = 40'	
VERT. 1" = 4'	



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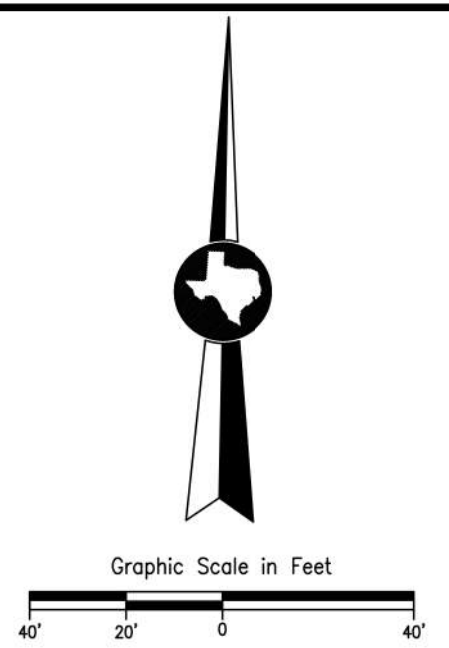
P.I. Q. STA. 0+50.00 ~ OFFSITE WATER CONNECTION
 = P.I. Q. STA. 12+04.57 ~ ALAMO DRIVE



LEGEND

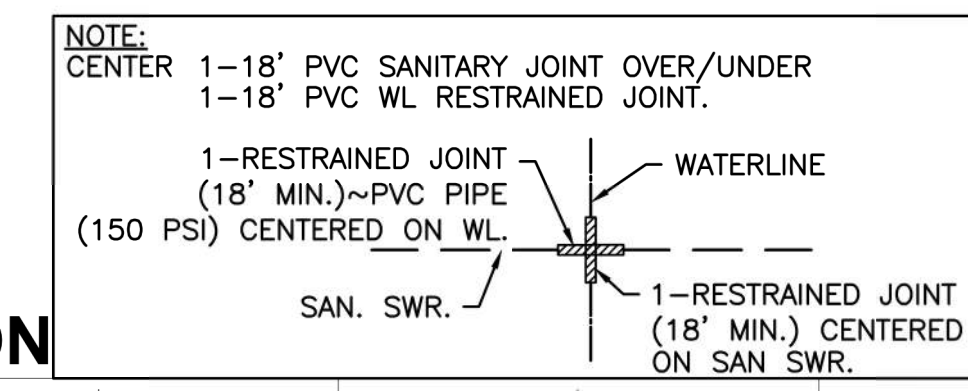
- PROPOSED STORM SEWER, MANHOLE AND "H-2" OR "C-1" INLETS
- WATER LINE WITH GATE VALVE AND BOX, BENDS, TEE AND 2" BLOW-OFF ASSEMBLY W/ PLUG AND CLAMP
- WATER LINE W/ FIRE HYDRANT UNIT
 A. LINE SIZE X 6" TEE
 B. 6" GATE VALVE AND BOX
 C. FIRE HYDRANT
- WATER LINE SYSTEM (BY OTHERS)
- SANITARY SEWER DOUBLE LEAD, STACK, MANHOLE AND SINGLE LEAD
- SANITARY SEWER AND MANHOLE (BY OTHERS)
- BLOCK NUMBER
- RESERVE
- LOT NUMBER
- STREET SIGN NAME CHANGE ONLY (AS NOTED ON PLANS)
- PROP. 5' WIDE CONC. SIDEWALK
- PROP. 6" CONC. CURB (ALL OTHER CURBS 4"x12". SEE GENERAL NOTE THIS SHEET)
- PROPOSED PAVEMENT
- PAVING HIGH POINT AT TOP OF CURB
- TOP OF CURB LOW POINT ELEV

- GENERAL NOTES:**
- ALL T.C. ELEVATIONS SHOWN ON PLAN AND PROFILE ARE BASED ON 6" CURB. TO OBTAIN 4"x12" CURB ELEVATION, SUBTRACT 0.17'.
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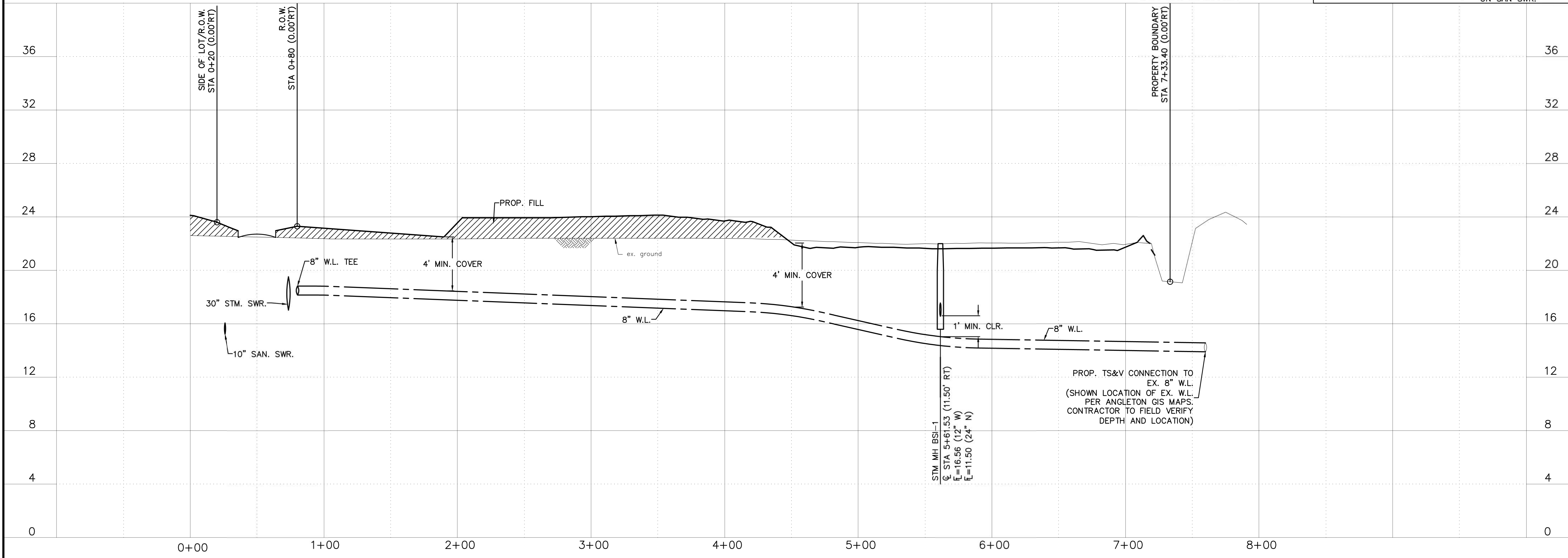


STA. 7+59.86 (0.00')
 1-8"x8" TS&V

called 45.10 acres
 jesse smith
 doc. no. 200401993, o.p.r.b.c., tx.
 I.T. tinsley survey subdivision
 vol. 29, pg. 75, b.c.d.r.

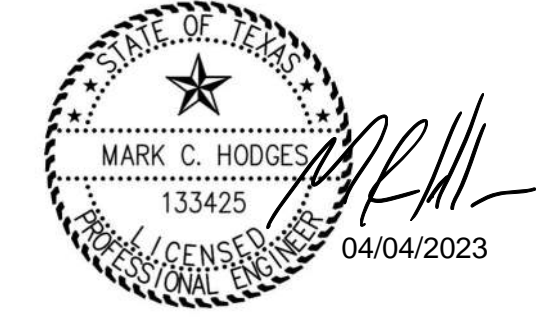


OFFSITE WATER CONNECTION



BENCHMARK(S) / FLOODPLAIN		
BENCHMARK: ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.		
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FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 480300040K, EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO BE WITHIN UNSHADED ZONE "X".		
APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseyeg.com
 TBPE No. F-17637



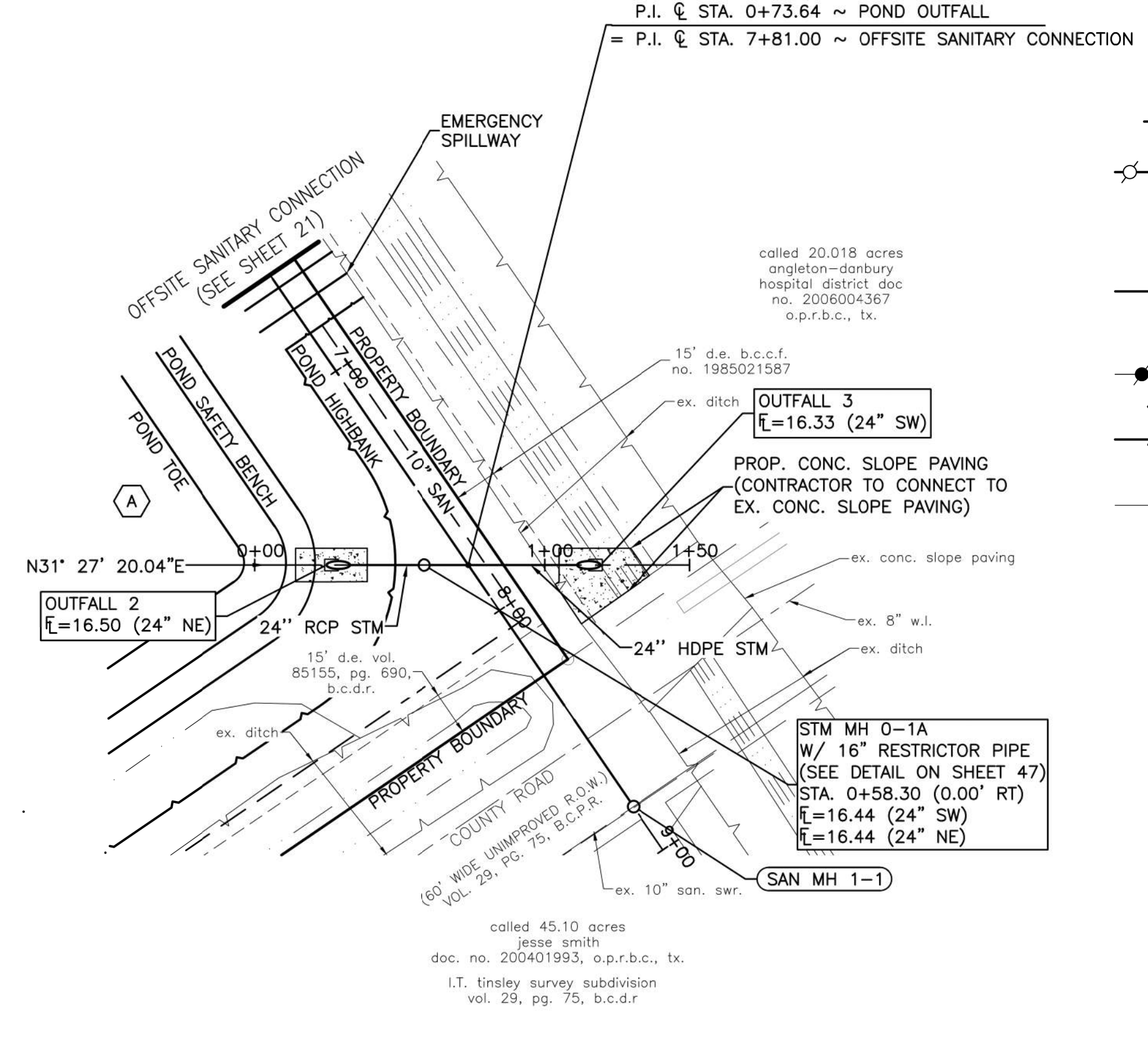
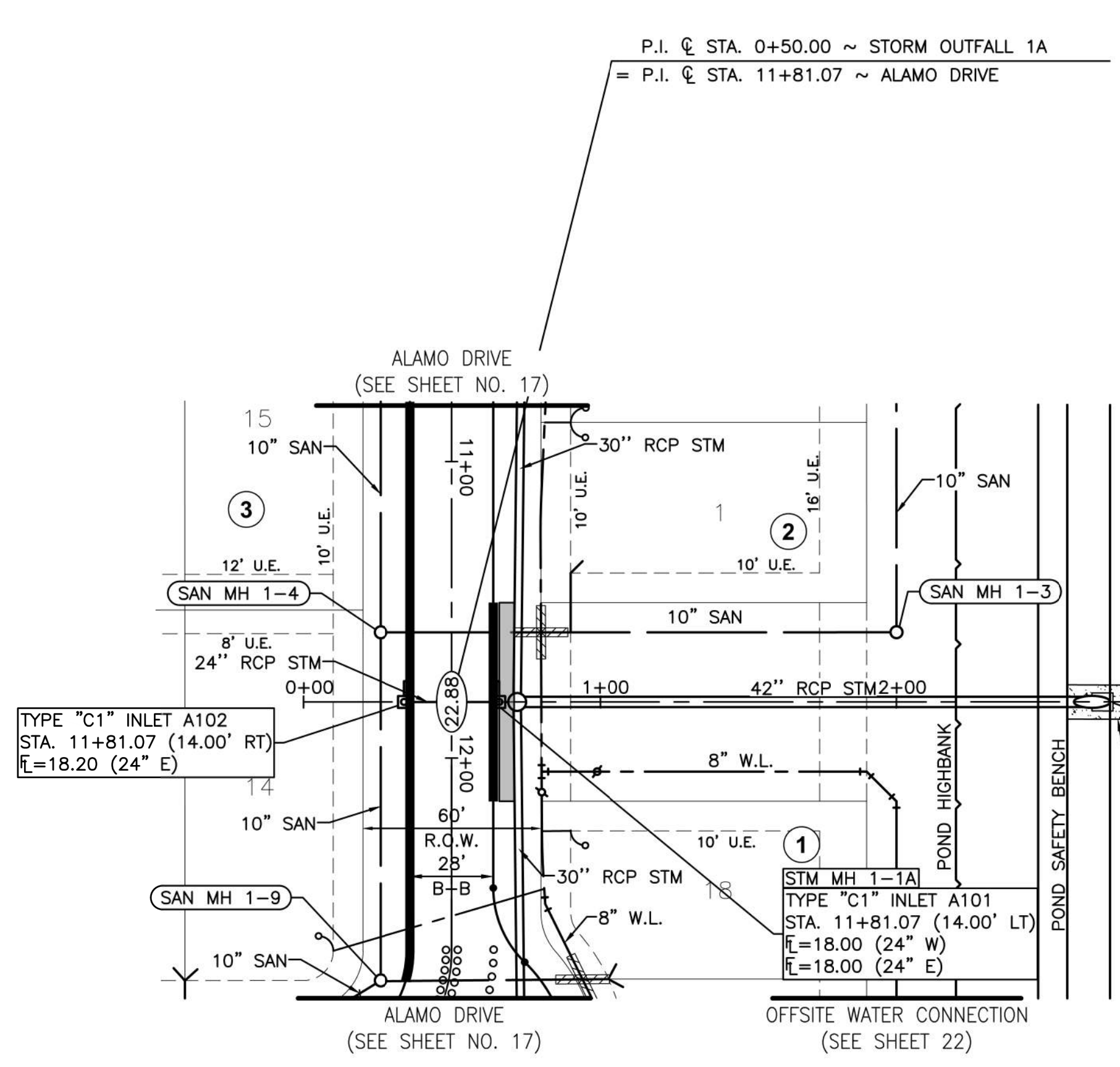
**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**

121 S Velasco,
 Angleton, Texas 77515

CITY OF ANGLETON
 LIVE OAK RANCH

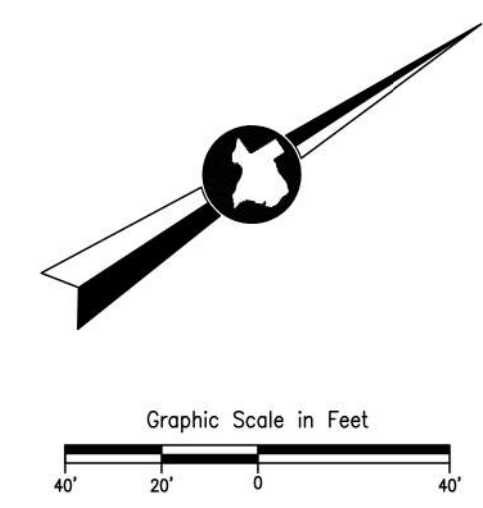
**OFFSITE WATER CONNECTION
 PLAN & PROFILE**

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
DWIN. NPM. DATE 6/22	
CHKD. MCH. DATE 3/23	
APPR. MCH. DATE 3/23	
SCALE: HORIZ. 1" = 40'	
VERT. 1" = 4'	

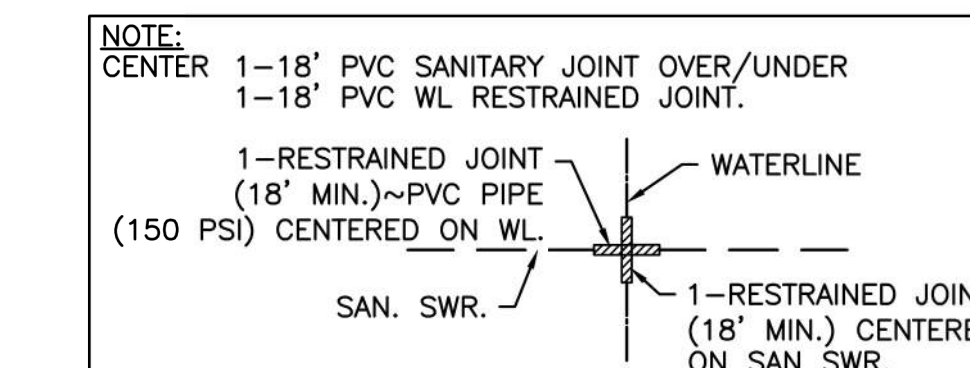


LEGEND

- PROPOSED STORM SEWER, MANHOLE AND "H-2" OR "C-1" INLETS
- WATER LINE WITH GATE VALVE AND BOX, BENDS, TEE AND 2" BLOW-OFF ASSEMBLY W/ PLUG AND CLAMP
- WATER LINE W/ FIRE HYDRANT UNIT
 - A. LINE SIZE X 6" TEE
 - B. 6" GATE VALVE AND BOX
 - C. FIRE HYDRANT
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- LOT NUMBER
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- PROP. 6" CONC. CURB (ALL OTHER CURBS 4"x12". SEE GENERAL NOTE THIS SHEET)
- PROPOSED PAVEMENT
- TOP OF CURB LOW POINT ELEV.

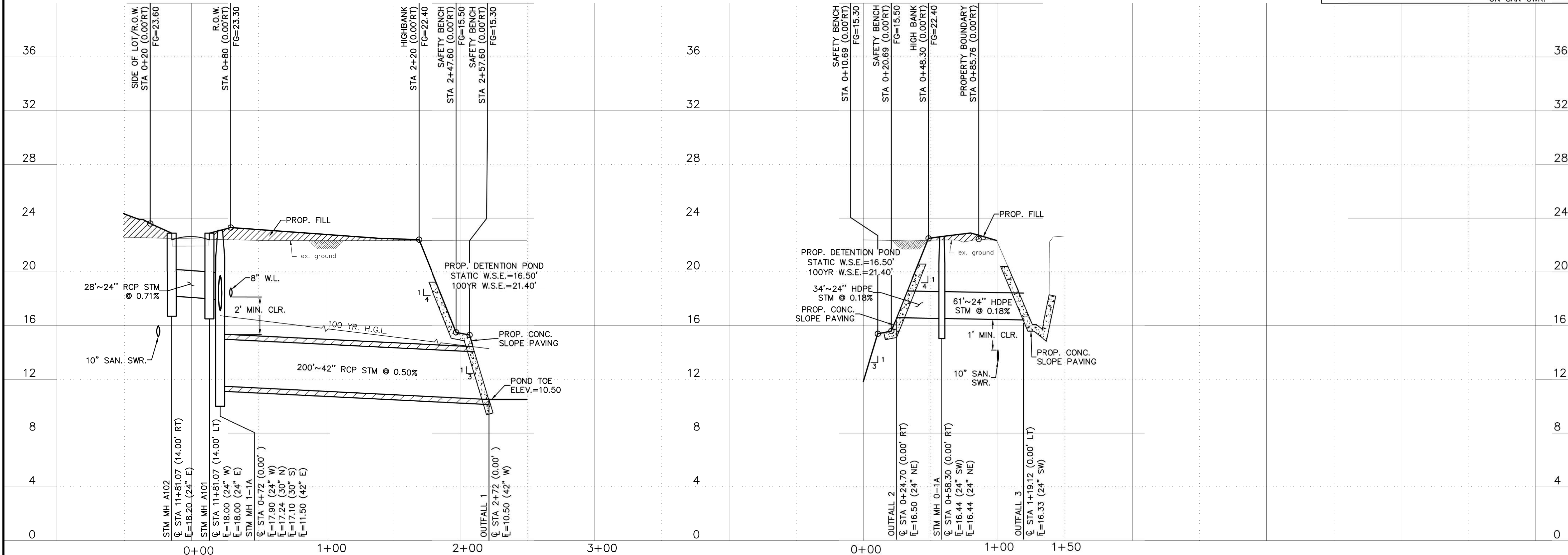


- GENERAL NOTES:**
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 5. CROSS SLOPE THROUGH CROSSWALK SHALL NOT EXCEED 2% IN ACCORDANCE WITH A.D.A.



STORM OUTFALL 1A

POND OUTFALL



BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
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TEMPORARY BENCHMARK-B:
TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)

FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400 EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseyeg.com
 TBPE No. F-17637

MARK C. HODGE
 133425
 04/04/2023

**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**

**121 S Velasco,
 Angleton, Texas 77515**

**CITY OF ANGLETON
 LIVE OAK RANCH**

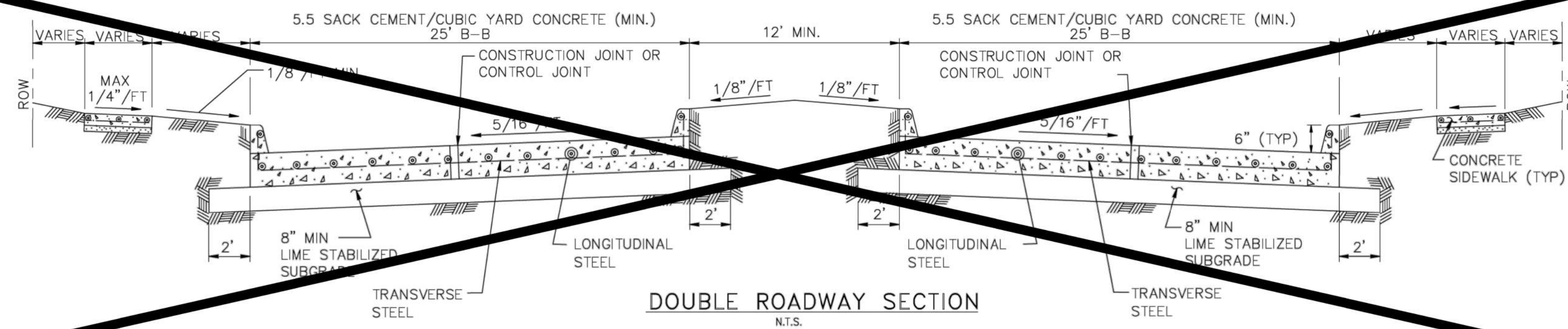
**STORM OUTFALL 1A & POND OUTFALL
 PLAN & PROFILE**

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
DWN. MCH. DATE 3/23	
CHKD. MCH. DATE 3/23	
APPR. MCH. DATE 3/23	

SCALE:
 HORIZ. 1" = 40'
 VERT. 1" = 4'

SHEET 23 OF 49 SHEETS

0:\21-027-00\Drawings\Plan\Profile\21027000-PP-PS-DORM OUTFALL 1A & POND OUTFALL.dwg Apr 03, 2023 3:30pm Edited by: Mhacgheal

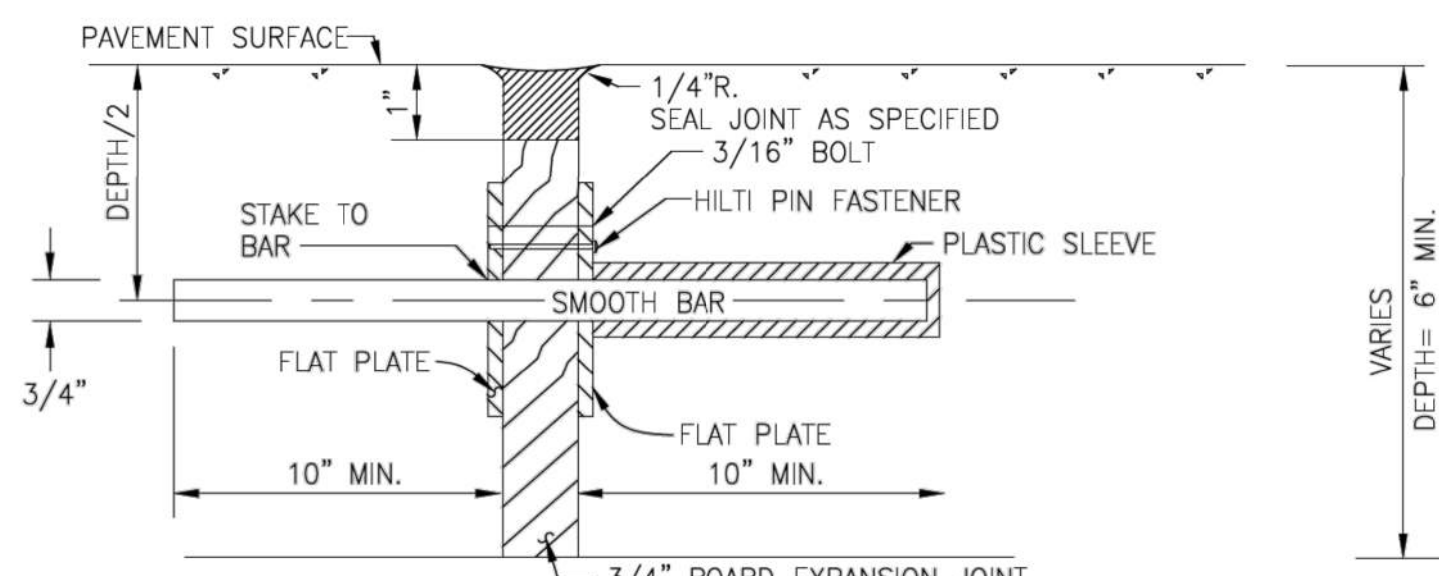


CONSTRUCTION NOTES:

- 6 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 4000 PSI REINFORCED CONCRETE WITH #4 BARS 18 INCHES C-C, E.W. IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR LOCAL STREETS PER GEOTECHNICAL REPORT.
- 7 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 3500 PSI REINFORCED CONCRETE WITH #4 BARS 18 INCHES C-C, IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR COLLECTOR STREETS.
- EIGHT (8) INCH, 5.5 SK, 3500 PSI @ 28 DAYS, REINFORCED WITH #4 18" C.C. EACH WAY IS THE MINIMUM ACCEPTABLE FOR ARTERIAL STREETS.
- HARD AGGREGATE IS NOT ALLOWED IN STREET PAVEMENT MIX. ADMIXTURES REQUIRE CITY OF SUGAR LAND PUBLIC WORKS DEPARTMENT APPROVAL.
- TRANSVERSE EXPANSION JOINTS SHALL BE PLACED AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY AND ALL INTERSECTION CURB RETURN POINTS. MAXIMUM SPACING SHALL BE 200' AND BE SEALED WITH SEALANT CONFORMING TO TXDOT ITEM 360 (& ITEM 438) AND TXDOT DMS-6310, CLASS-2.
- TRANSVERSE CONTROL JOINTS ARE REQUIRED AT MAXIMUM SPACING OF 20'-0" C-C, AND VERTICAL CURB JOINTS TO BE SEALED WITH SPECIAL JOINT SEALANT ASTM-D-1190-74 OR AASHTO-M173-60 FOR PAVEMENT 8" THICK AND GREATER. (ELASTOMERIC TYPE HOT Poured)
- PAVEMENT FINISH SHALL BE BAKER BROOM FINISH. CURING COMPOUND REQUIRED ON ALL CONCRETE.
- STORM WATER POLLUTION PROTECTION SHALL BE DESIGNED, CONSTRUCTED, MAINTAINED AND SHALL BE IN TOTAL COMPLIANCE WITH THE STORM QUALITY MANUAL OF THE CITY OF ANGLETON CITY ENGINEER'S APPROVAL.
- REFER TO GENERAL, C.S.S., AND PAVEMENT NOTES.
- FOR PAVEMENT WIDTH OF 20-FT AND WIDER, ADD A LONGITUDINAL CONTROL JOINT.

SL-ST-01

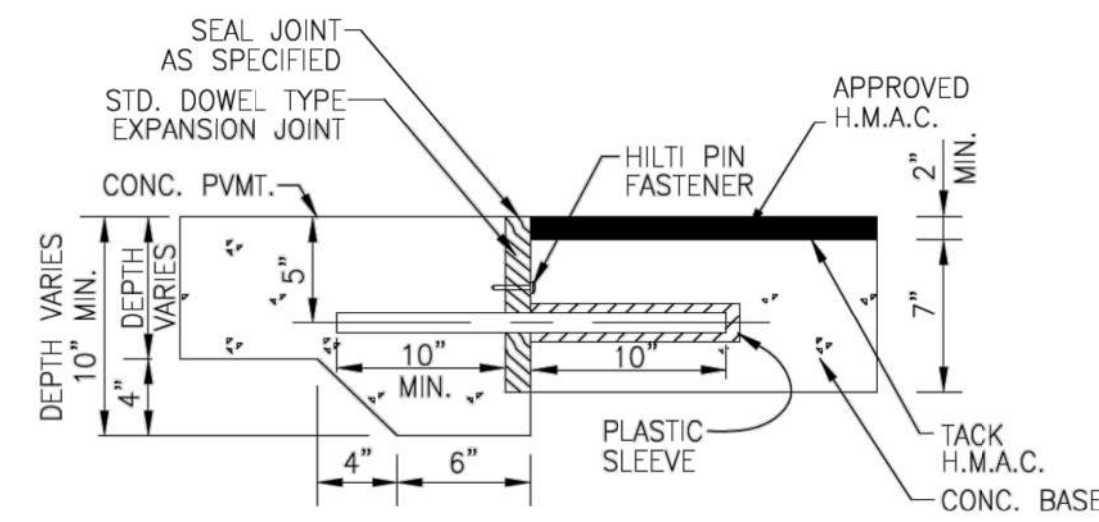
SL-ST-12



DOWEL TYPE EXPANSION JOINT

N.T.S.

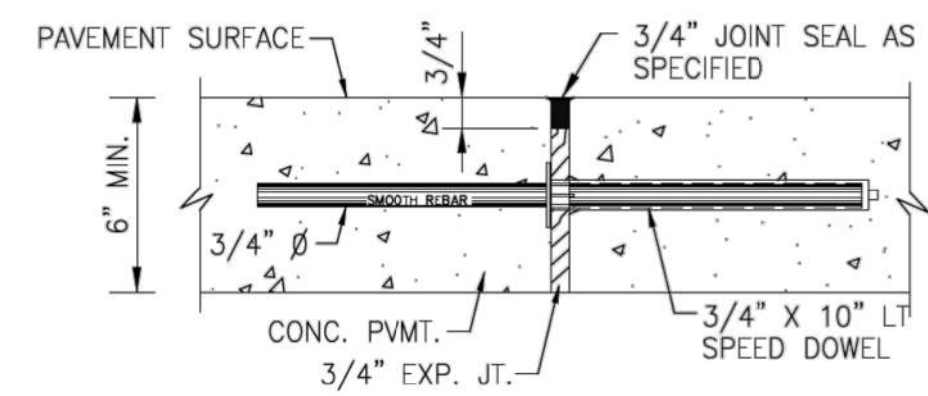
SL-ST-03



DOWEL TYPE EXPANSION JOINT

(CONC. PAVING TO CONC. BASE)
N.T.S.

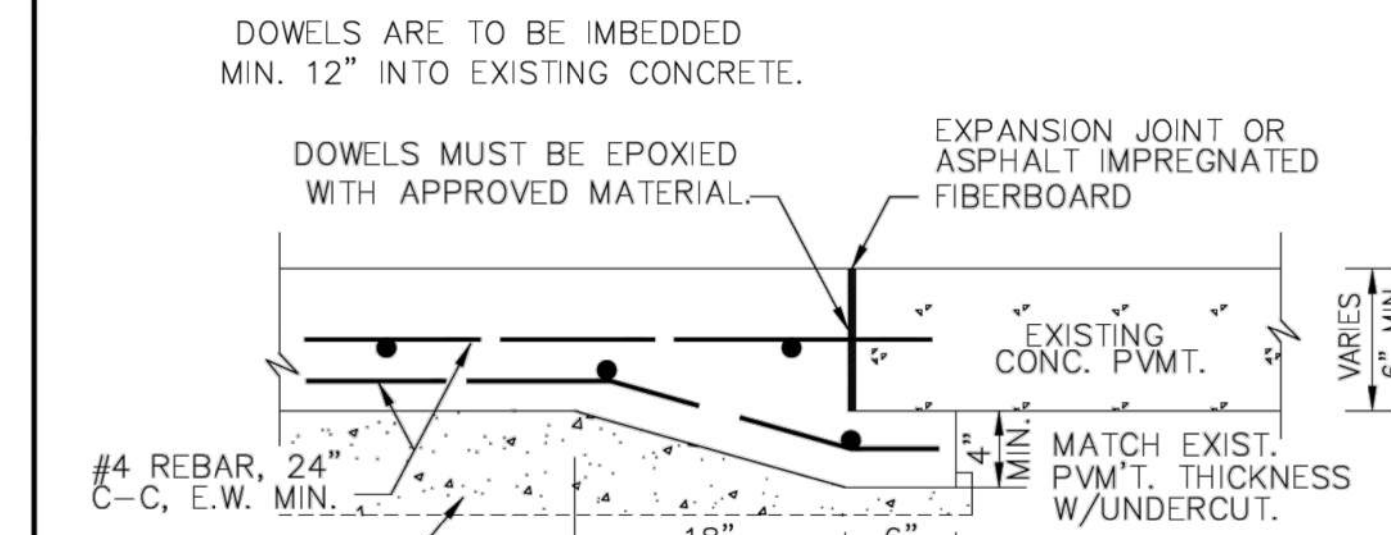
SL-ST-06



SPEED DOWEL EXPANSION JOINT

N.T.S.

SL-ST-08



UNDERCUT DETAIL WITH HEADER

N.T.S.

SL-ST-09

BENCHMARK(S) / FLOODPLAIN

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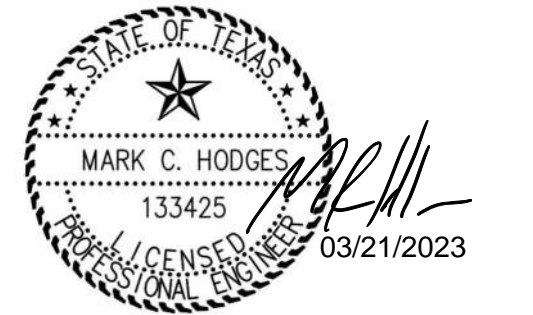
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APPR.	REVISION	DATE



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**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

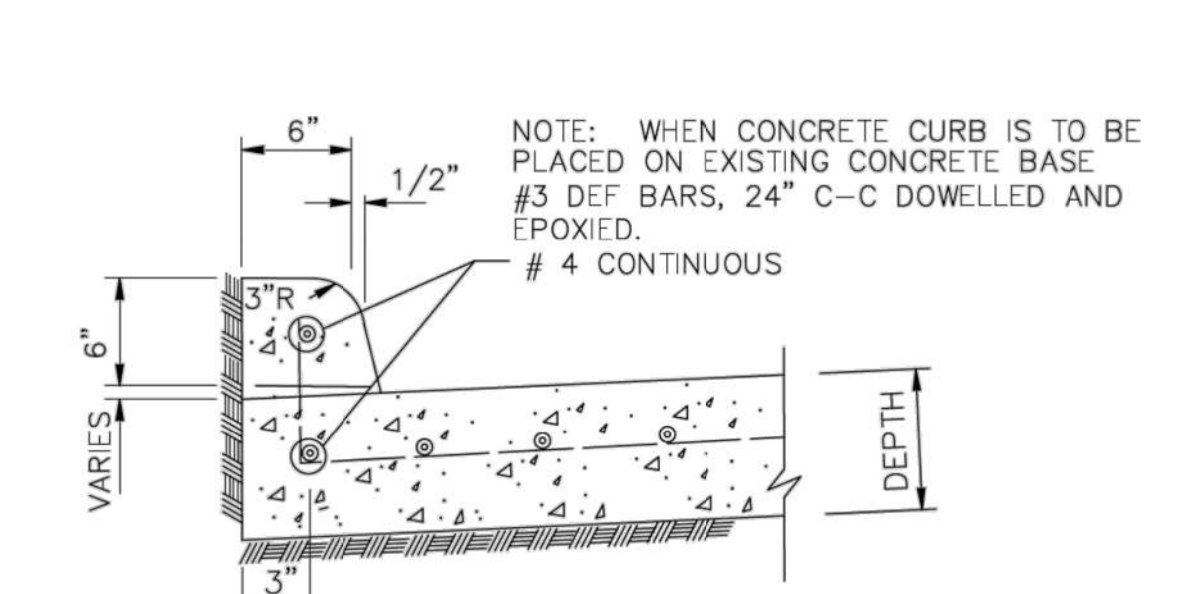
121 S Velasco,
Angleton, Texas 77515

**CITY OF ANGLETON
LIVE OAK RANCH**

**PAVING DETAILS
(1 OF 9)**

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	1-21027000-01
DWN.	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

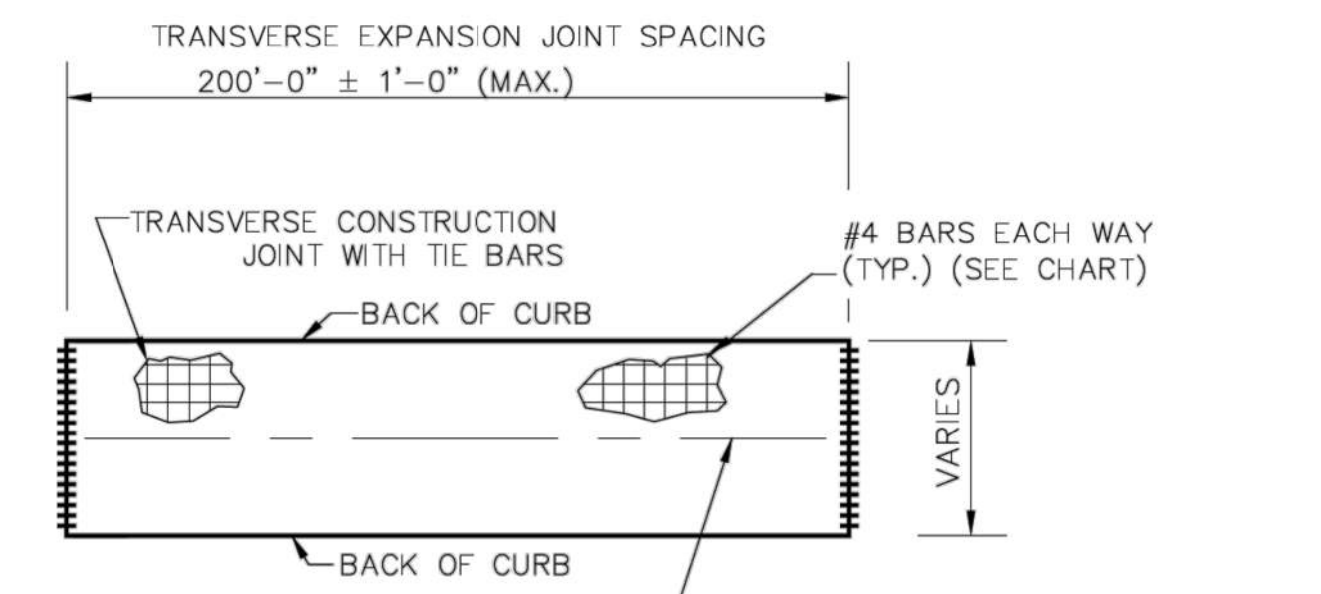
SCALE:	HORIZ.	NIA	VERT.	NIA



CONCRETE CURB

N.T.S.

SL-ST-04

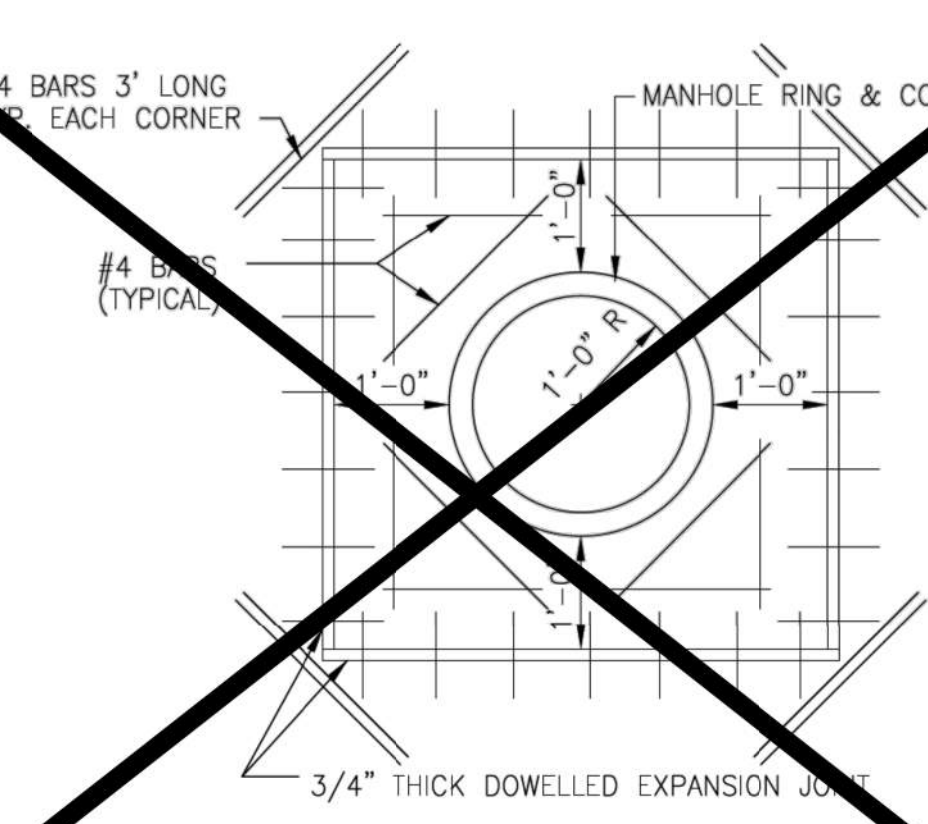


PAVING PANEL

N.T.S.

SL-ST-05

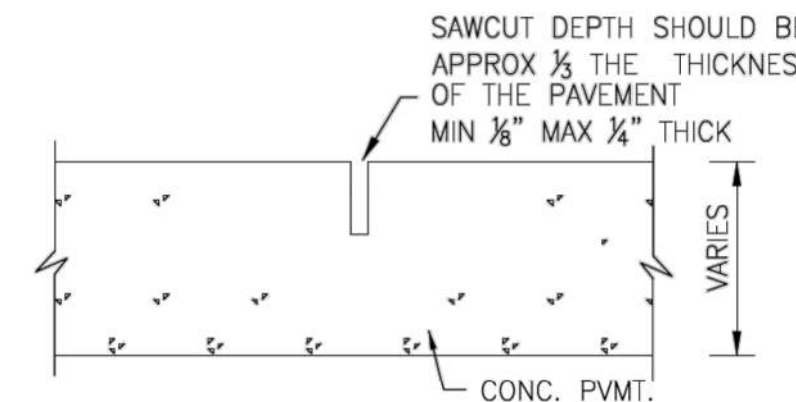
PAVEMENT THICKNESS	SPACING (C-C)
6"	24"
7"	18"
8"	18"



MANHOLE BLOCKOUT

N.T.S.

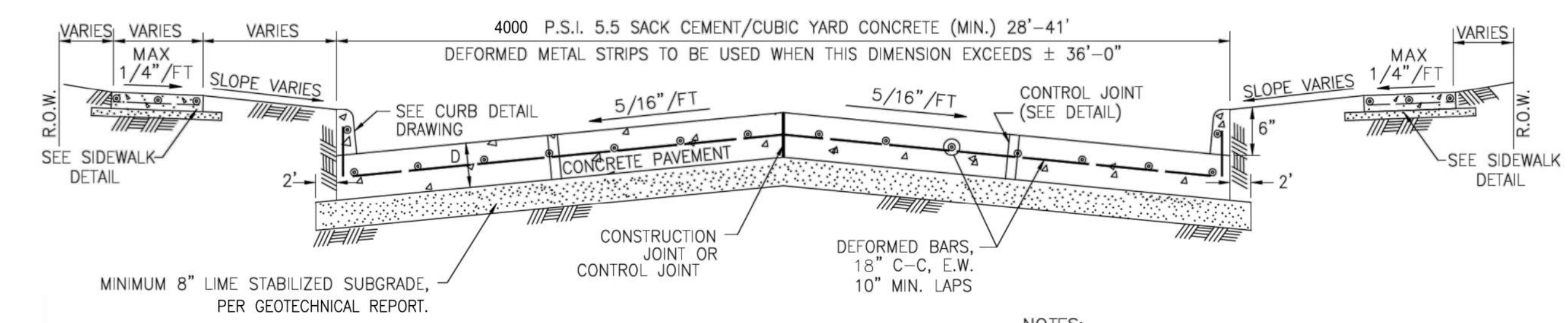
SL-ST-10



CONTROL JOINT

N.T.S.

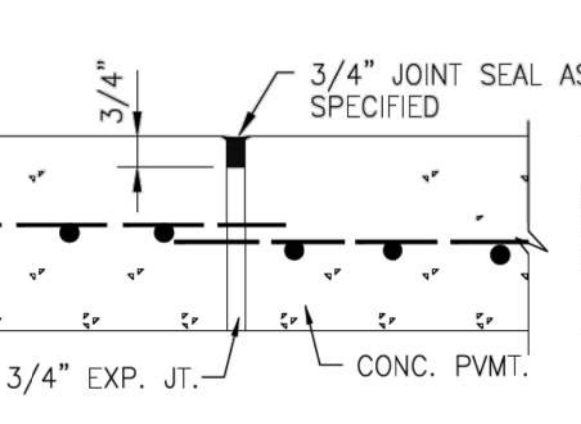
SL-ST-11



SL-ST-02

SINGLE ROADWAY SECTION

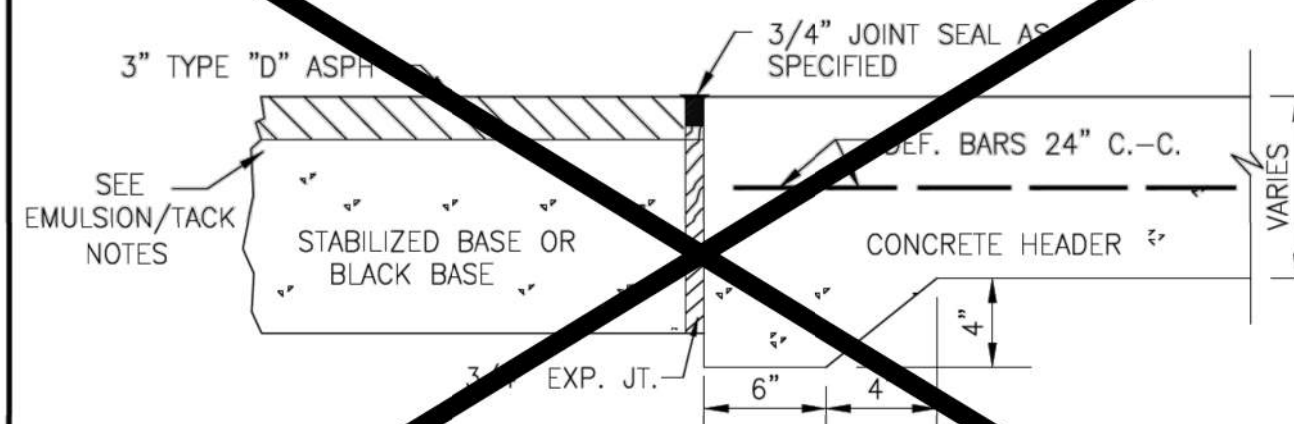
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CONSTRUCTION JOINT SEAL

N.T.S.

SL-ST-12



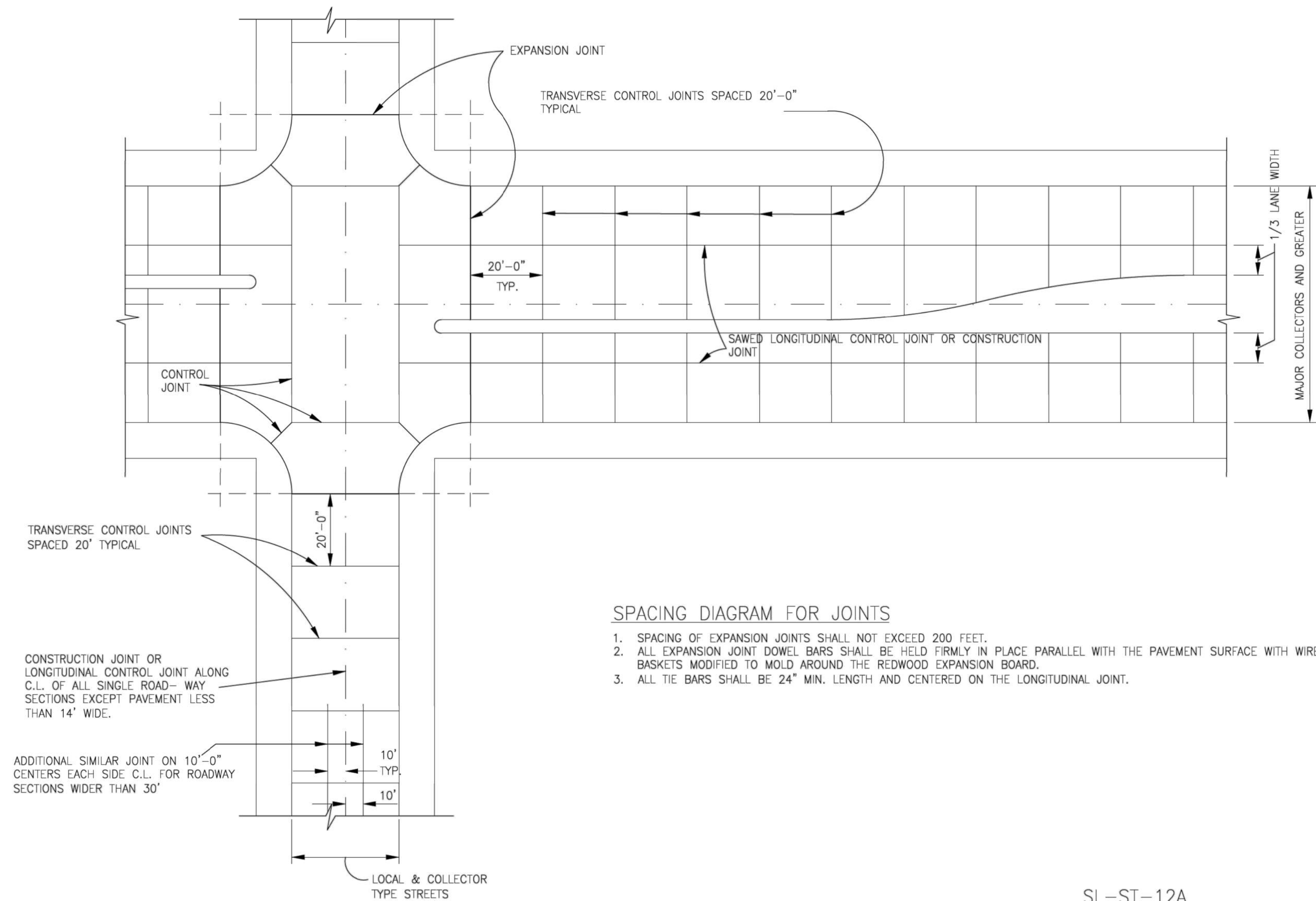
PAVING HEADER

(FOR USE IN CONNECTING CONC. P.V.M.T. TO ASPHALT P.V.M.T.) (PROP. OR EXIST.)

SL-ST-07

REVISION DATE: OCTOBER 2021

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SPACING DIAGRAM FOR JOINTS

1. SPACING OF EXPANSION JOINTS SHALL NOT EXCEED 200 FEET.
2. ALL EXPANSION JOINT DOWEL BARS SHALL BE HELD FIRMLY IN PLACE PARALLEL WITH THE PAVEMENT SURFACE WITH WIRE BASKETS MODIFIED TO MOLD AROUND THE REDWOOD EXPANSION BOARD.
3. ALL TIE BARS SHALL BE 24" MIN. LENGTH AND CENTERED ON THE LONGITUDINAL JOINT.

SL-ST-12A

REVISION DATE: OCTOBER 2021

BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
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TEMPORARY BENCHMARK-A:
TEMPORARY BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)

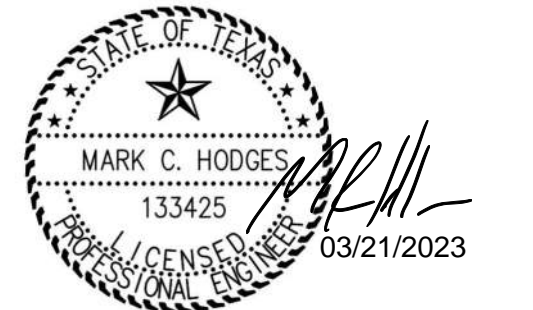
TEMPORARY BENCHMARK-B:
TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)

FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 480350040K EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE



2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

CITY OF ANGLETON
LIVE OAK RANCH

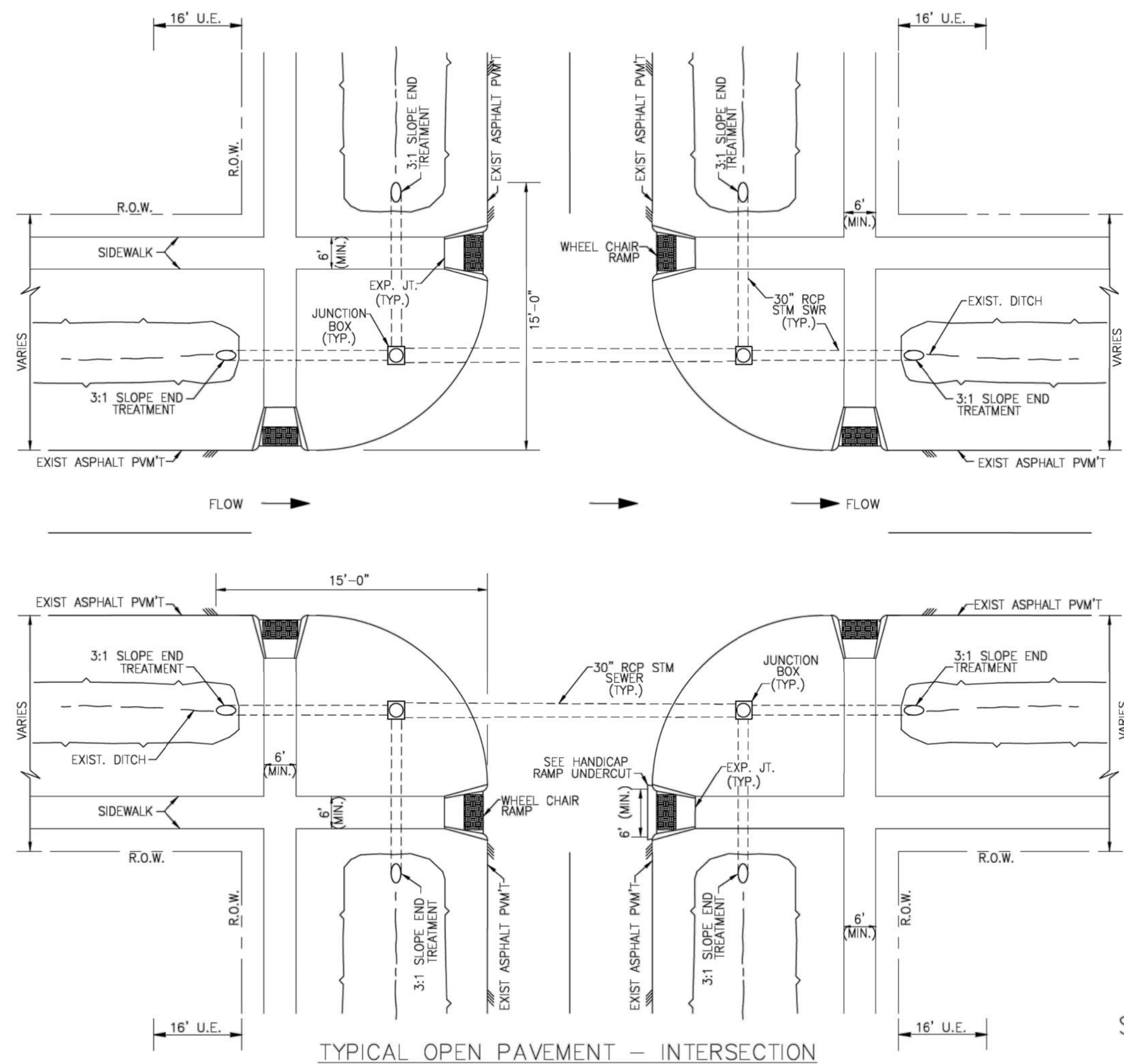
**PAVING DETAILS
(2 OF 9)**

SURV.	MS	DATE	5/22	JOB NO.
DSGN.	NPM	DATE	6/22	21-027-00
DWN.	NPM	DATE	6/22	
CHKD.	MCH	DATE	3/23	IMAGE NO.
APPR.	MCH	DATE	3/23	I-21027000-01

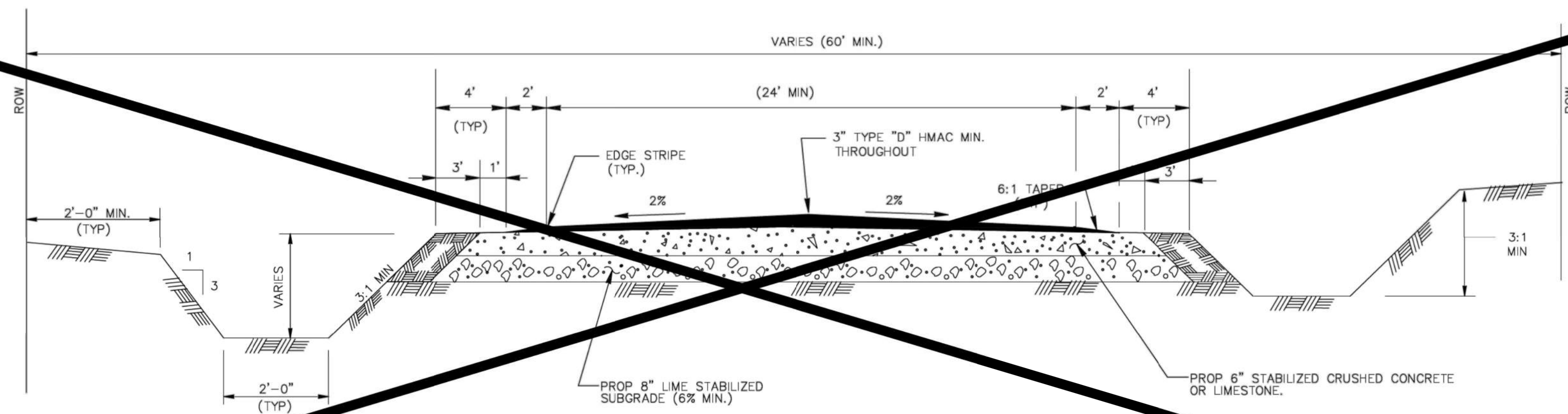
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SHEET 25 OF 49 SHEETS

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SL-ST-22



ASPHALT PAVEMENT - DITCH SECTION CROSS SECTION

SL-ST-21

- REFER TO:
1. GENERAL NOTES
 2. ASPHALT NOTES
 3. BASE NOTES
 4. TACK & EMULSION NOTES

BENCHMARK(S) / FLOODPLAIN

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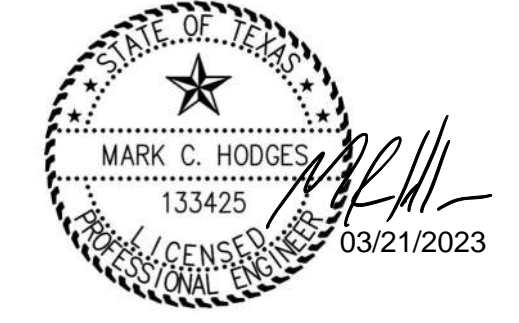
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TBPE No. F-17637



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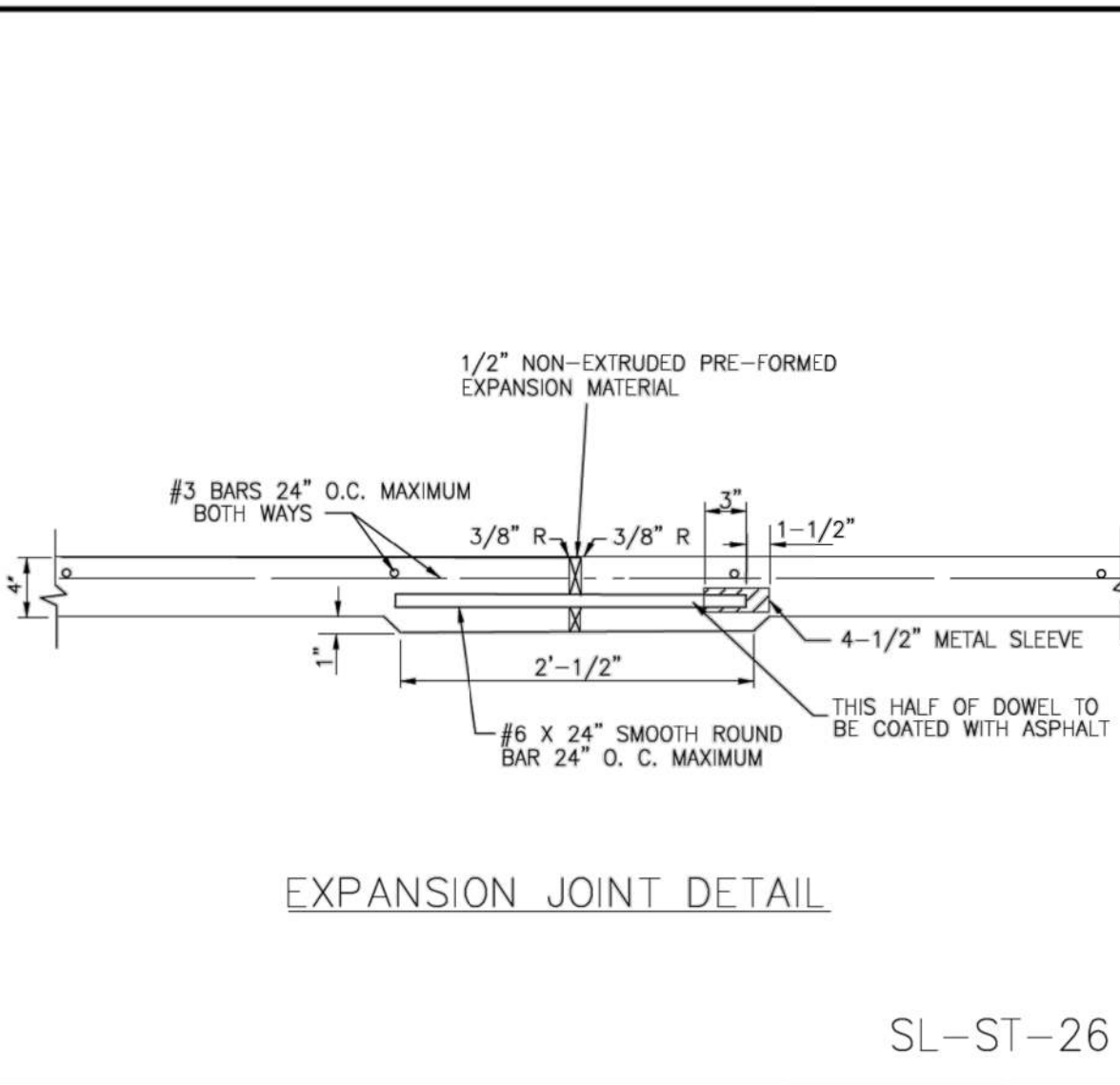
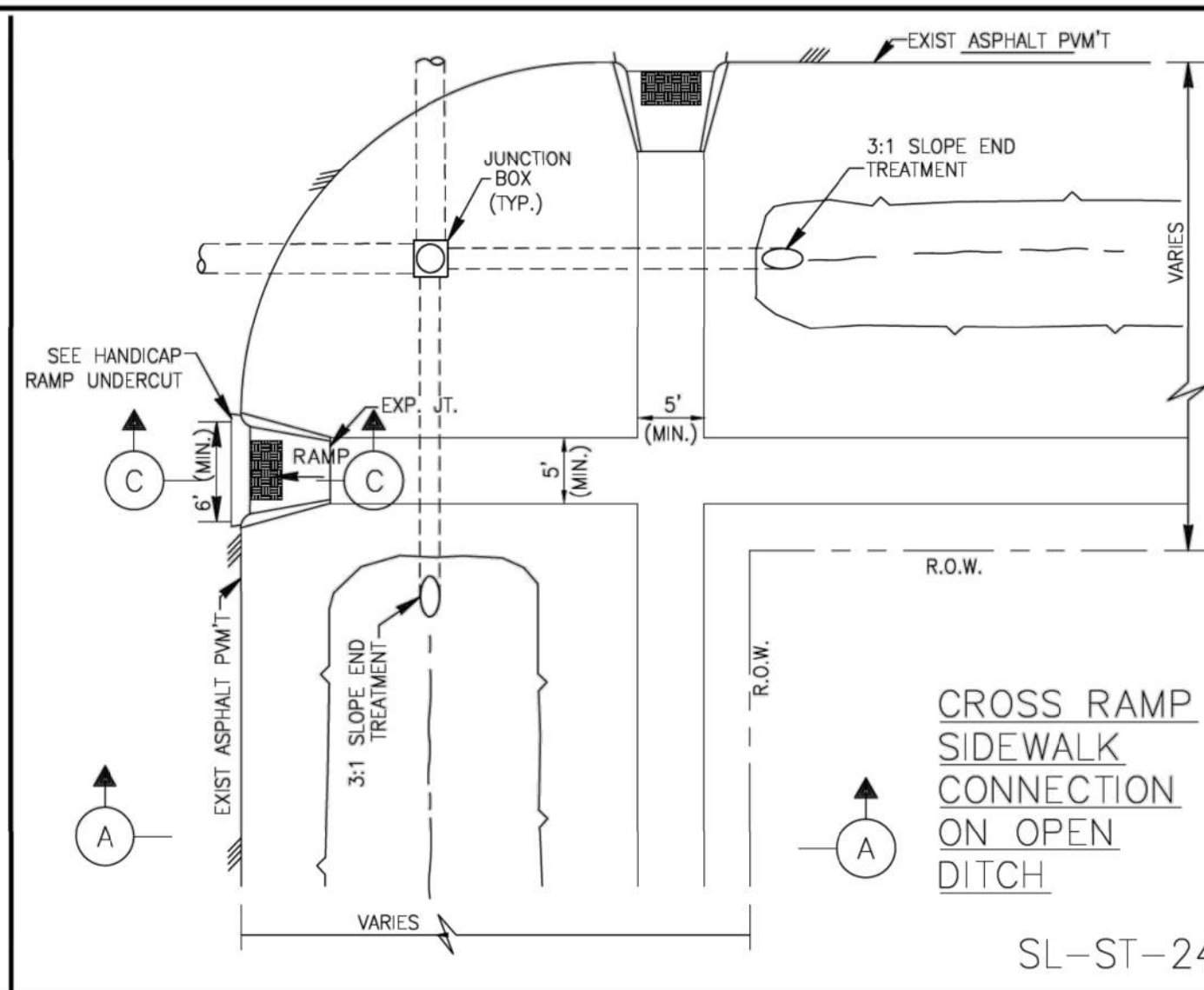
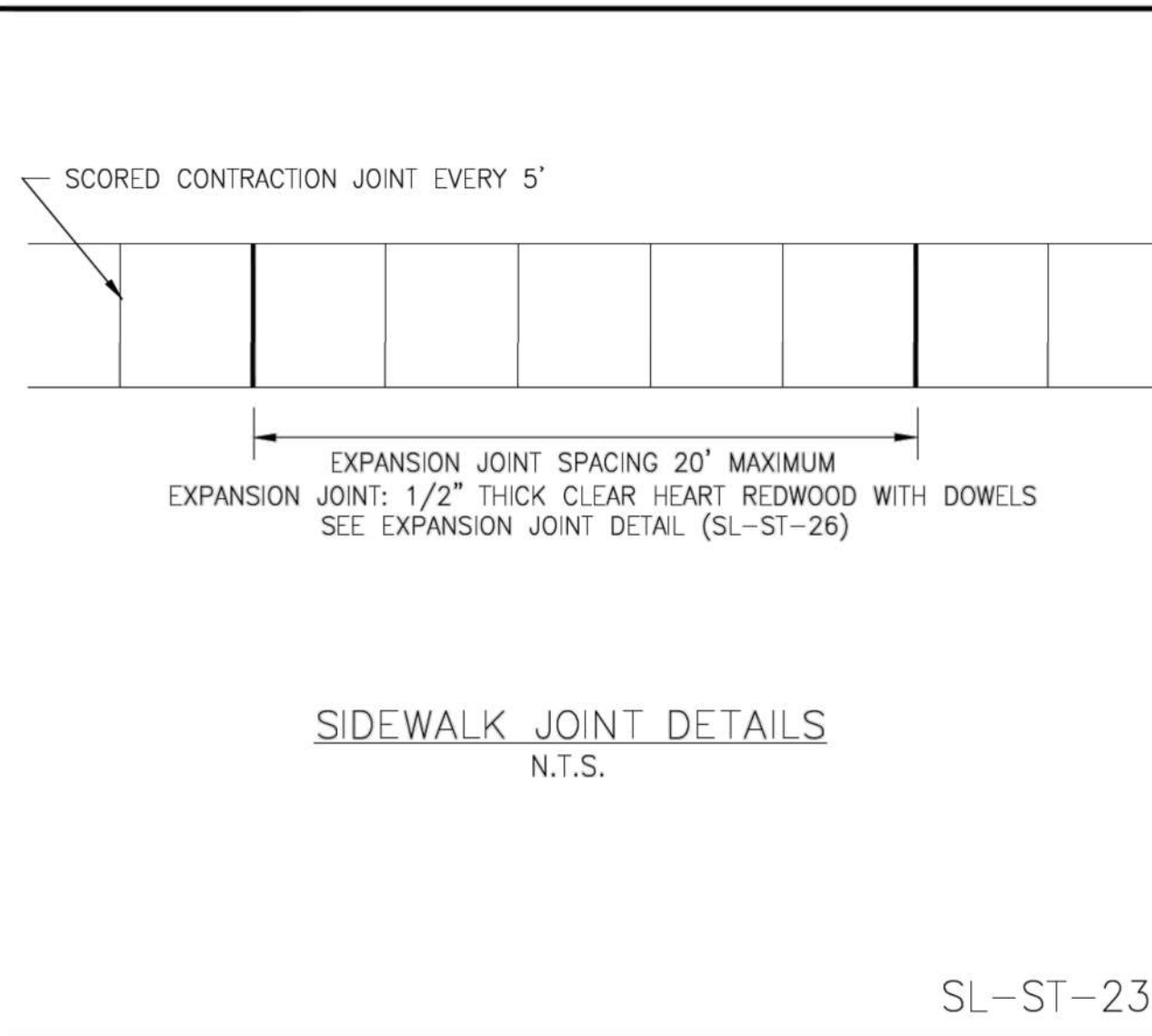
CITY OF ANGLETON
LIVE OAK RANCH

PAVING DETAILS
(4 OF 9)

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
DWN. NPM. DATE 6/22	
CHKD. MCH. DATE 3/23	
APPR. MCH. DATE 3/23	
SCALE: HORIZ. N/A	SHEET 27 OF 49 SHEETS
VERT. N/A	

REVISION DATE: OCTOBER 2021

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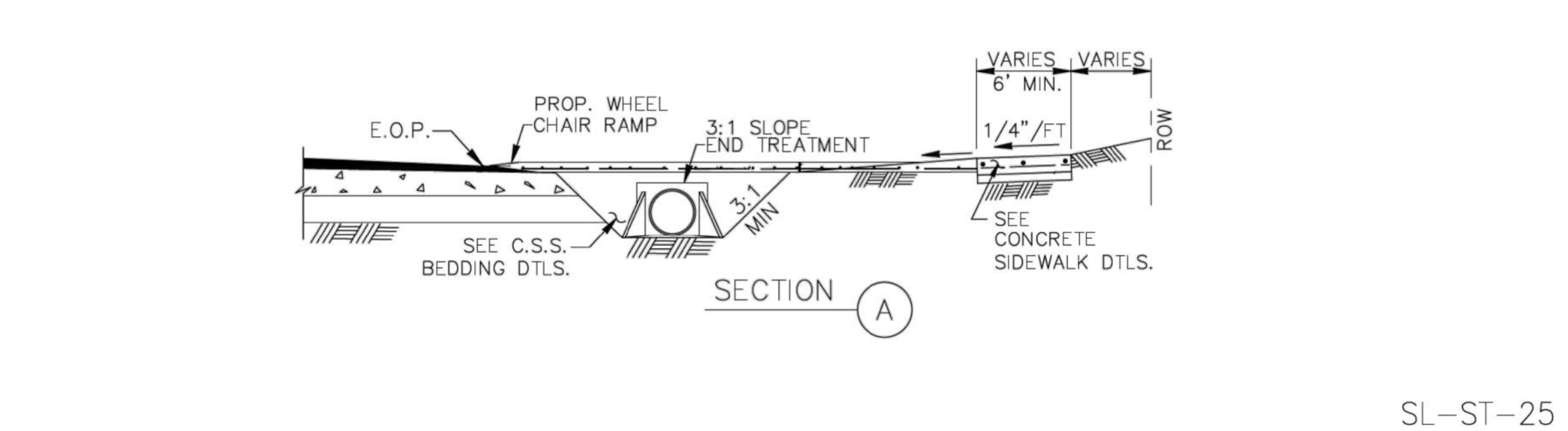
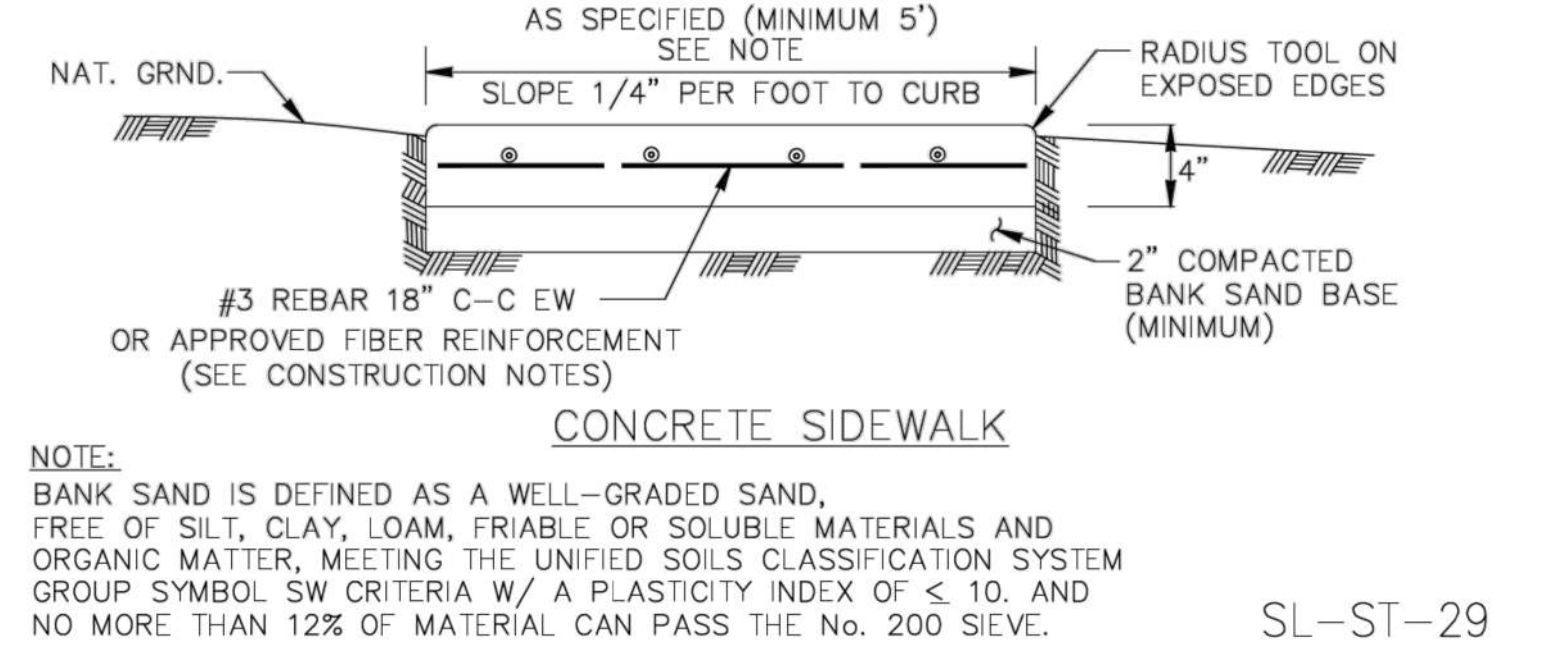


NOTES:

- EXISTING CURB AND GUTTER TO BE SAW CUT, REMOVED AND REPLACED. DOWEL STEEL FOR MINIMUM REINFORCING OVERLAP OF 10 INCHES (10") DOWELS SHALL BE EIGHTEEN INCHES (18") LONG AND EPOXIED A MINIMUM OF (8") EIGHT INCHES INTO EXISTING PAVEMENT.
- IF SIDEWALKS ARE NEITHER EXISTING NOR PROPOSED WHERE WHEELCHAIR RAMP ACCESS IS REQUIRED, CONCRETE SIDEWALKS SURFACE 4 1/2" THICK SHALL BE INSTALLED TO PROVIDE ACCESS TO THE PEDESTRIAN PUSH BUTTONS.
- DETECTABLE WARNINGS REQUIRED BY T.A.S. SECTIONS 4.1 AND 4.7 SHALL COMPLY WITH T.A.S. SECTION 4.29
- THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACE SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE.
- DETECTABLE WARNING SURFACE SHALL COVER THE ENTIRE WIDTH AND DEPTH OF RAMP.
- DETECTABLE WARNINGS SHALL BE INSTALLED WITH PAVERS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- CONCRETE PAVER UNITS SHALL MEET ALL REQUIREMENTS OF ASTM C-935, C-33, AND SHALL BE PLACED IN A TWO BY TWO UNIT BASKET WEAVE PATTERN, UNLESS SHOWN OTHERWISE IN THE PLANS.
- CONCRETE PAVER UNITS SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS. DOMES SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- CONCRETE PAVER UNIT COLOR FOR THE RAMP SHALL BE A CONTRASTING COLOR THAT PROVIDES A LIGHT REFLECTIVE THAT SIGNIFICANTLY CONTRASTS WITH THE ADJACENT SURFACES. ADJACENT SURFACES INCLUDE SIDE FLARES.
- CONCRETE PAVER UNITS SHALL BE SAW CUT ONLY, AND ANY CUT UNIT SHALL NOT BE LESS THAN 25% OF A FULL UNIT.

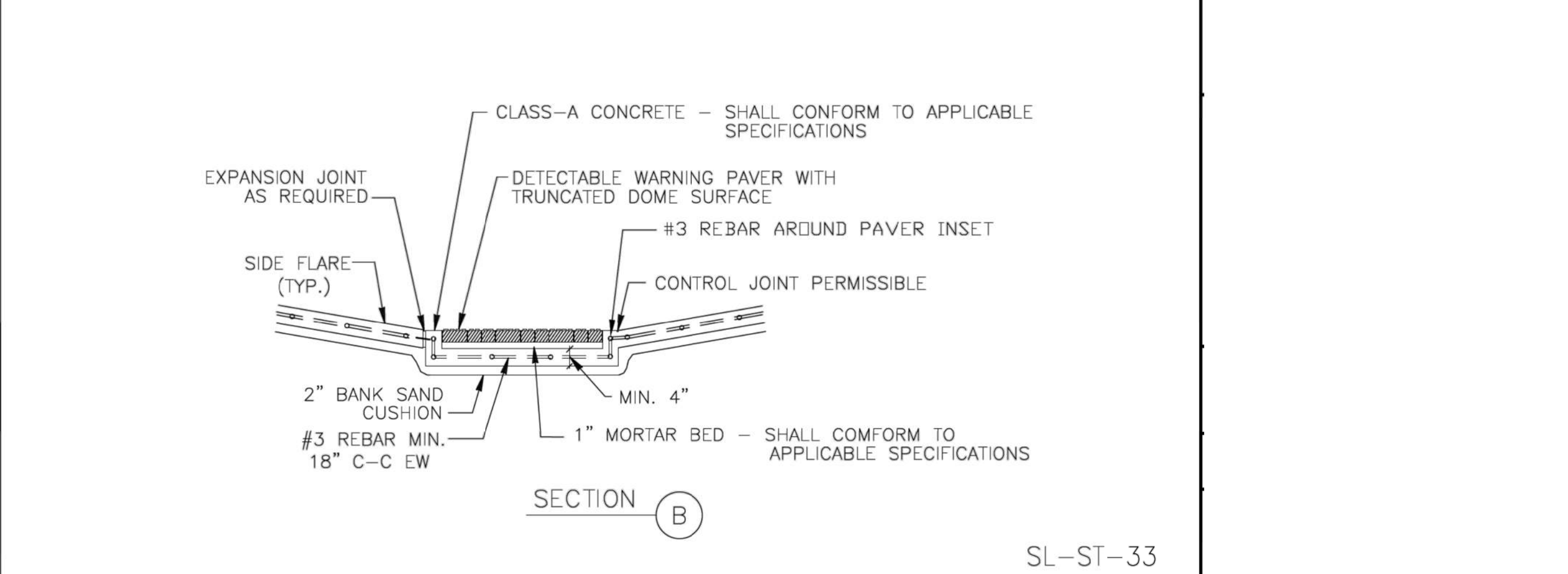
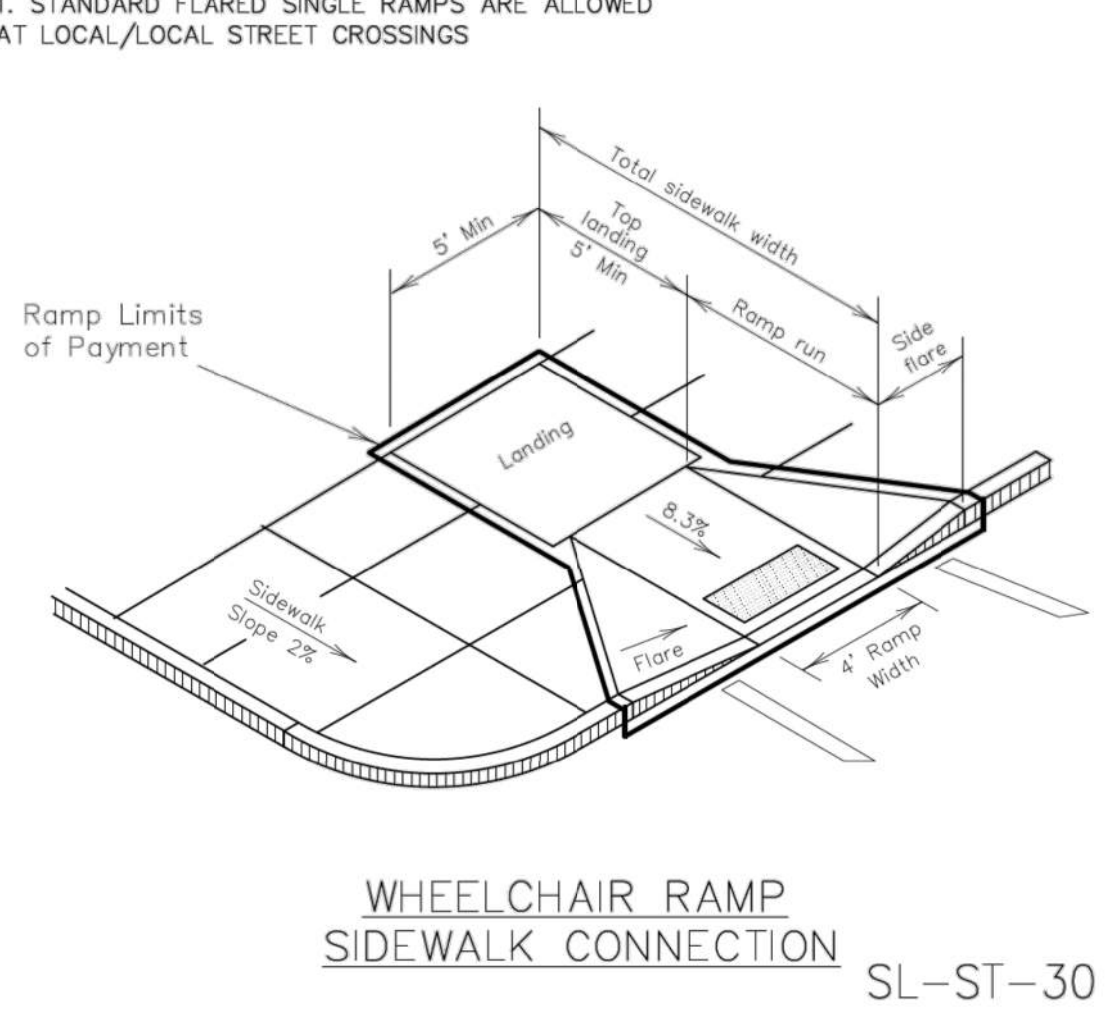
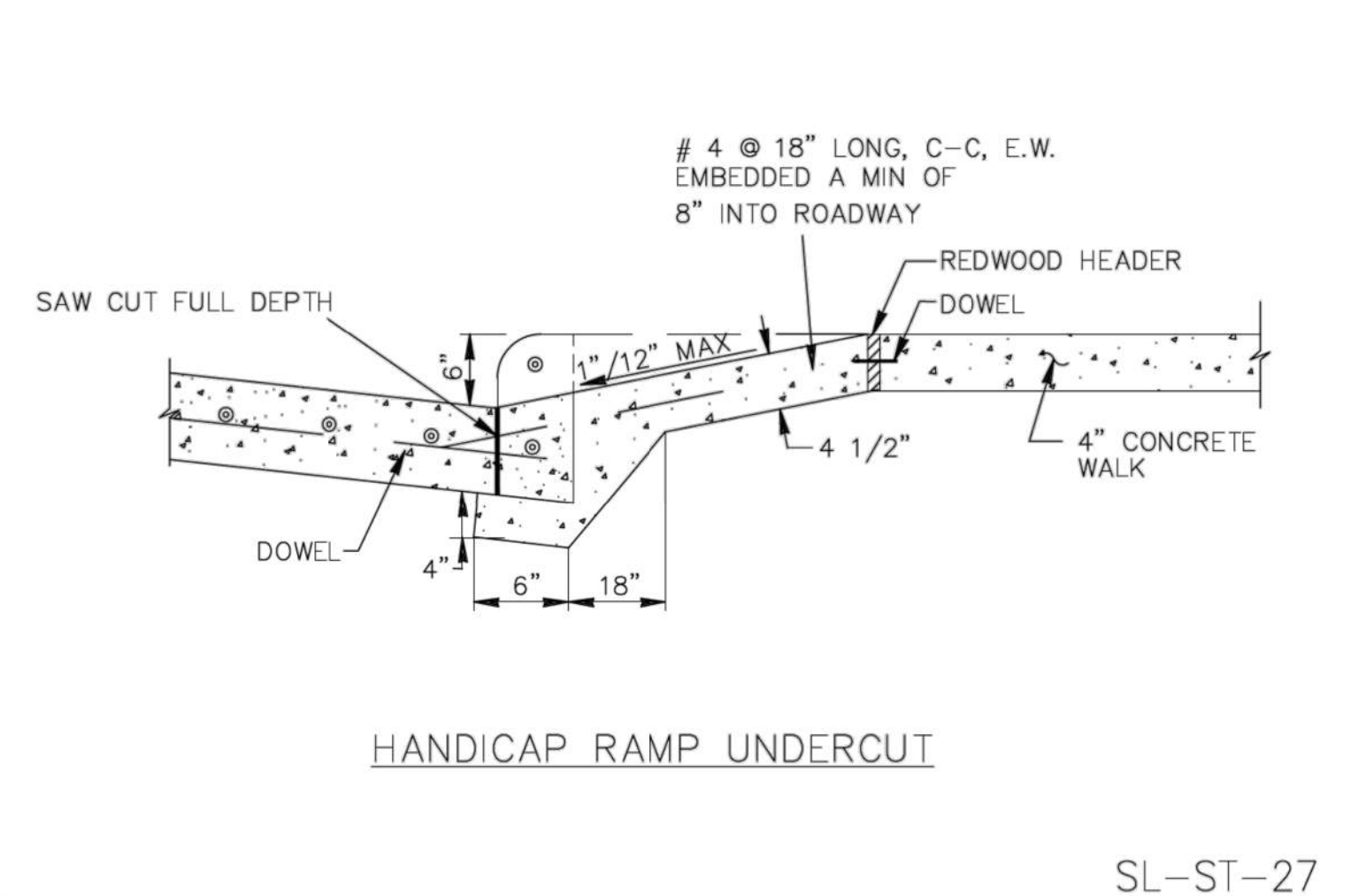
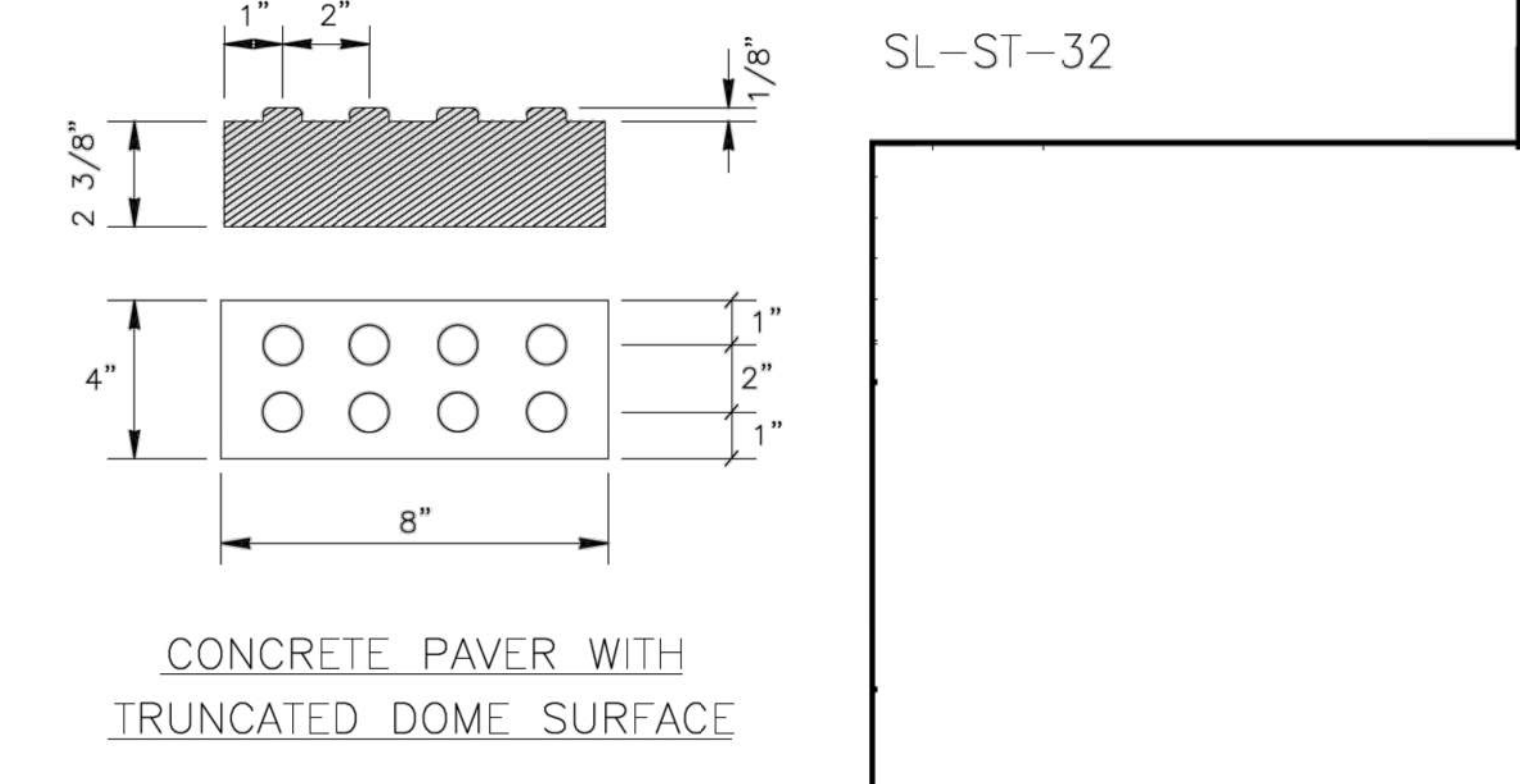
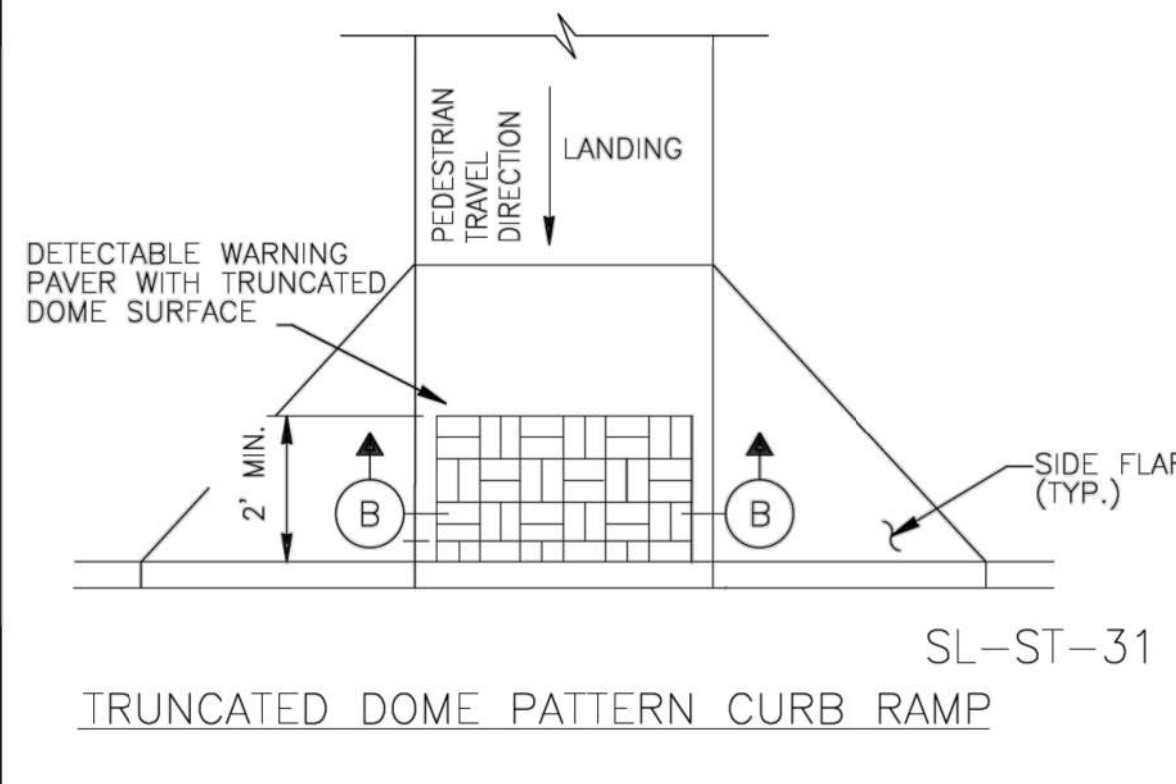
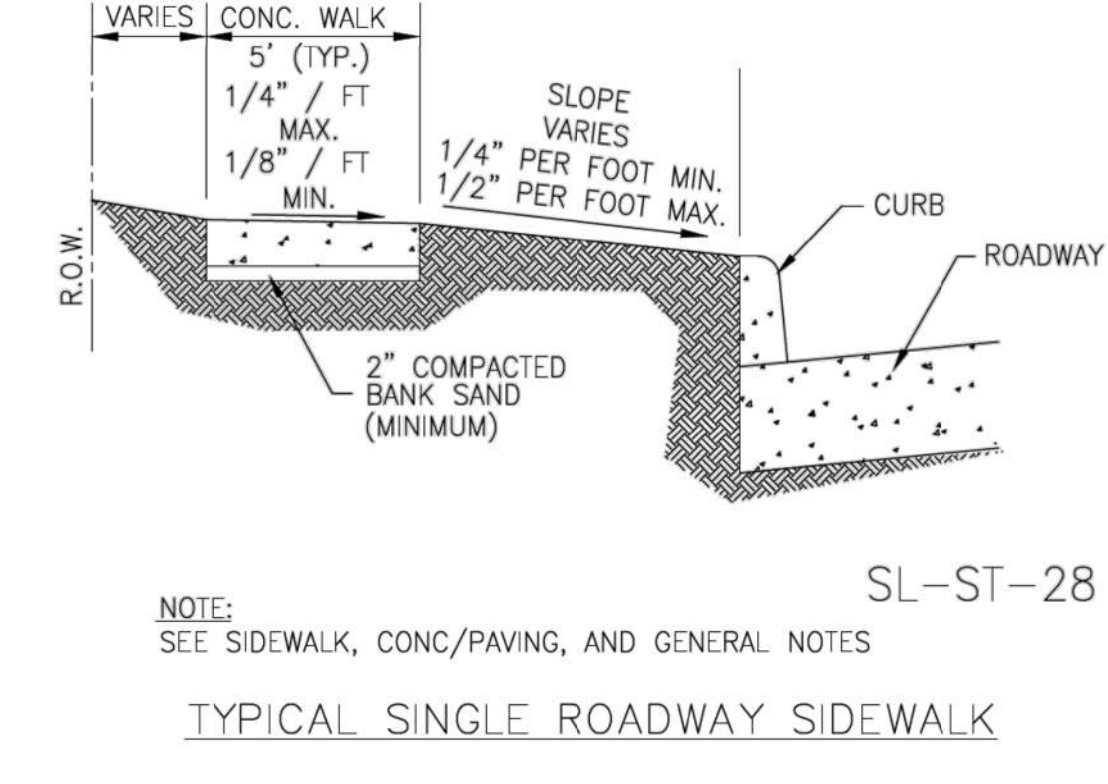
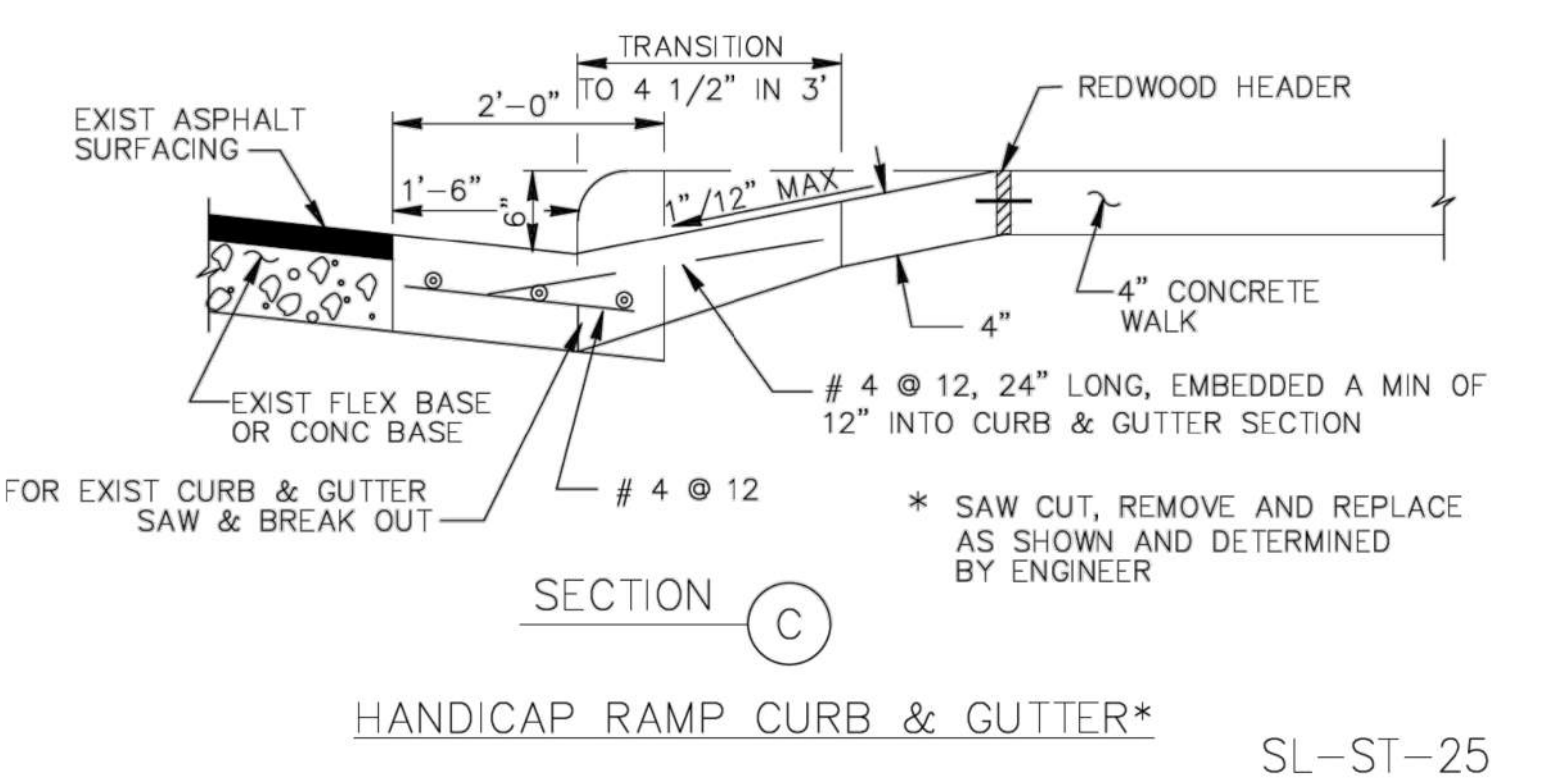
CONSTRUCTION NOTES:

- THE MAXIMUM WIDTH BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 20'-0"
- EXPANSION JOINT IS TO BE 1/2" THICK CLEAR HEART REDWOOD WITH DOWELS.
- SCORED CONTRACTION JOINTS SHALL BE EVERY 5' OR EQUAL TO WIDTH OF SIDEWALK.
- ALL EARTHEN AREAS ARE TO BE SODDED UNLESS SHOWN OTHERWISE ON DRAWINGS.
- 4 INCH, 5 SACK CEMENT PER CUBIC YARD CONCRETE, 3000 PSI. REINFORCED CONCRETE WITH #3 BARS, 18 INCHES C-C, FOR SIDEWALKS, #4 BARS 18" C-C FOR WHEEL CHAIR RAMP IS THE MINIMUM ACCEPTED. MINIMUM 3 LONGITUDINAL BARS. FIBER REINFORCING SIDEWALKS-STEEL AND POLYPROPYLENE BLENDED FIBER REINFORCEMENT SYSTEM SUCH AS NOVOMESH #3 AS MANUFACTURED BY S.I. CONCRETE SYSTEMS (OR PRE-APPROVED EQUAL) MAY BE USED AS AN ALTERNATE TO CONVENTIONAL REBAR REINFORCING AT A DOSAGE RATE OF 24 LBS. PER CUBIC YARD OF CONCRETE.
- USE RADIUS TOOL ON ALL EXPOSED EDGES.
- TOP OF THE SIDEWALK ELEVATION TO BE TOP OF CURB.
- MEMBRANE CURING COMPOUND IS REQUIRED AS DESCRIBED IN ITEM 526 IN THE TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- REFER TO GENERAL NOTES AND CONCRETE/PAVING NOTES.
- SIDEWALK EXPANSION JOINTS SHALL CONFORM TO STREET EXPANSION JOINT STANDARDS.



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FLOODPLAIN:
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CITY OF ANGLETON BRAZORIA COUNTY, TEXAS

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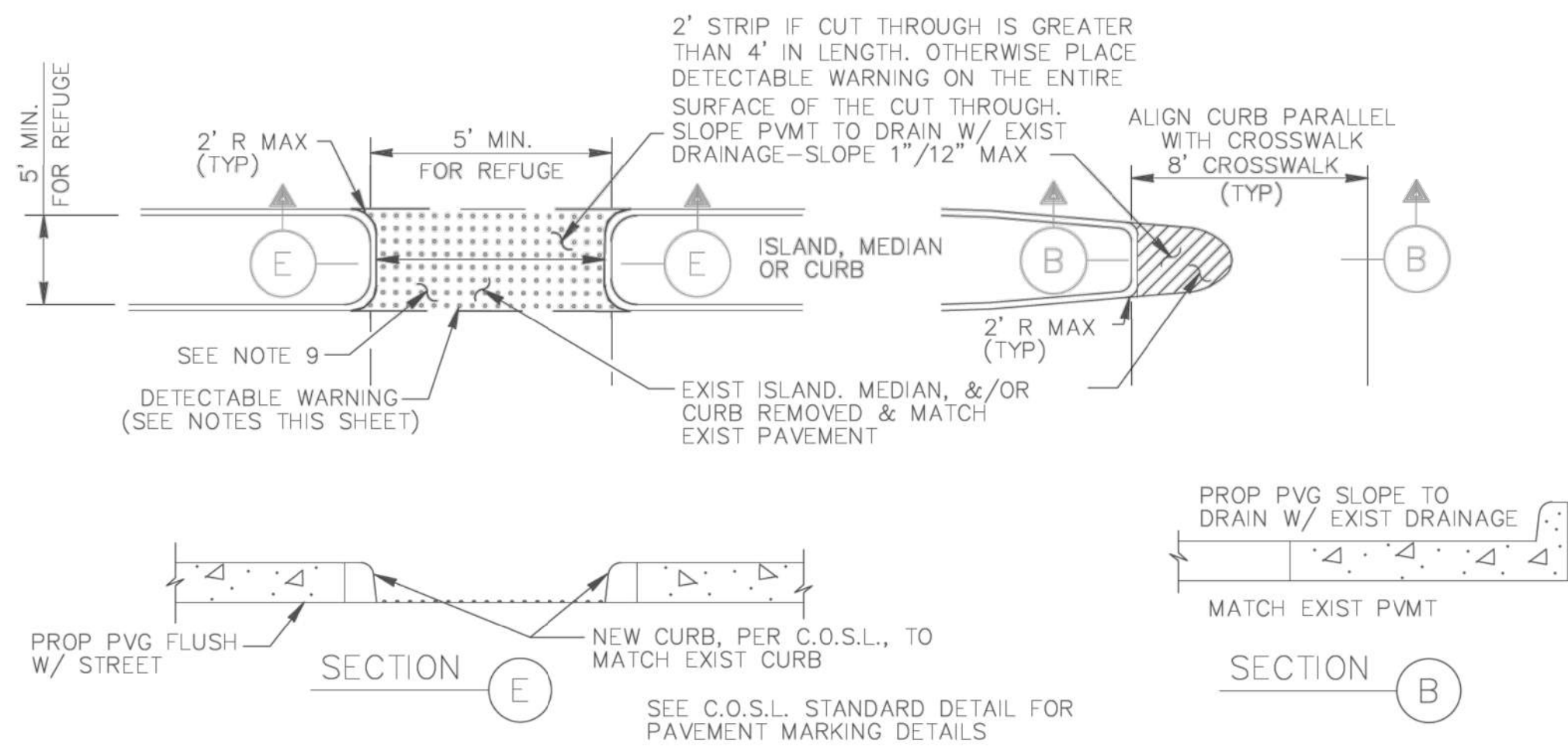
CITY OF ANGLETON LIVE OAK RANCH

PAVING DETAILS (5 OF 9)

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
DWN. NPM. DATE 6/22	
CHKD. MCH. DATE 3/23	
APPR. MCH. DATE 3/23	
SCALE: HORIZ. N/A	SHEET 28 OF 49 SHEETS
VERT. N/A	

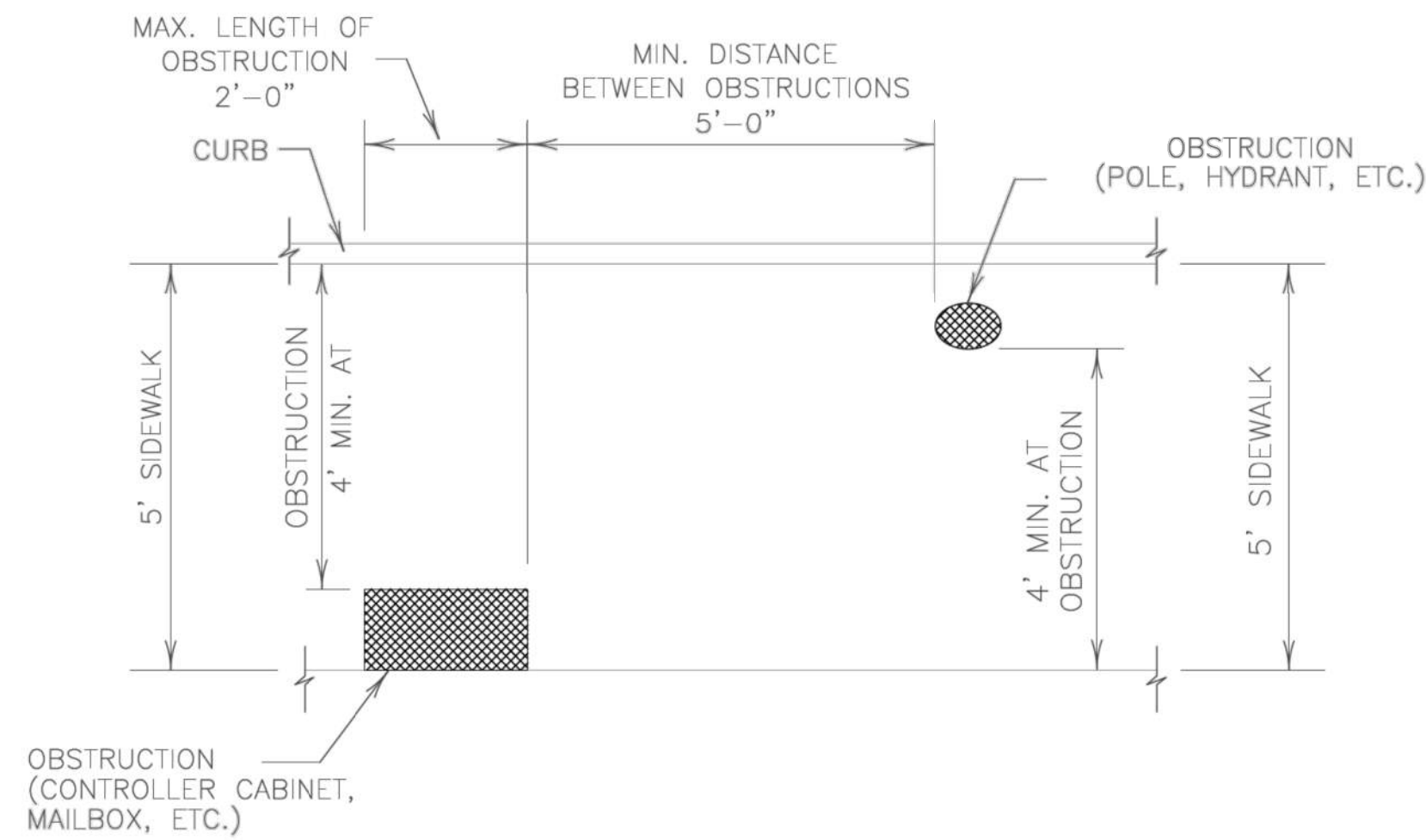
REVISION DATE: OCTOBER 2021

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FOR ISLAND, MEDIAN, OR CURB MODIFICATIONS FOR CROSSWALKS

SL-ST-35



PLAN VIEW
PLACEMENT OF STREET FIXTURES

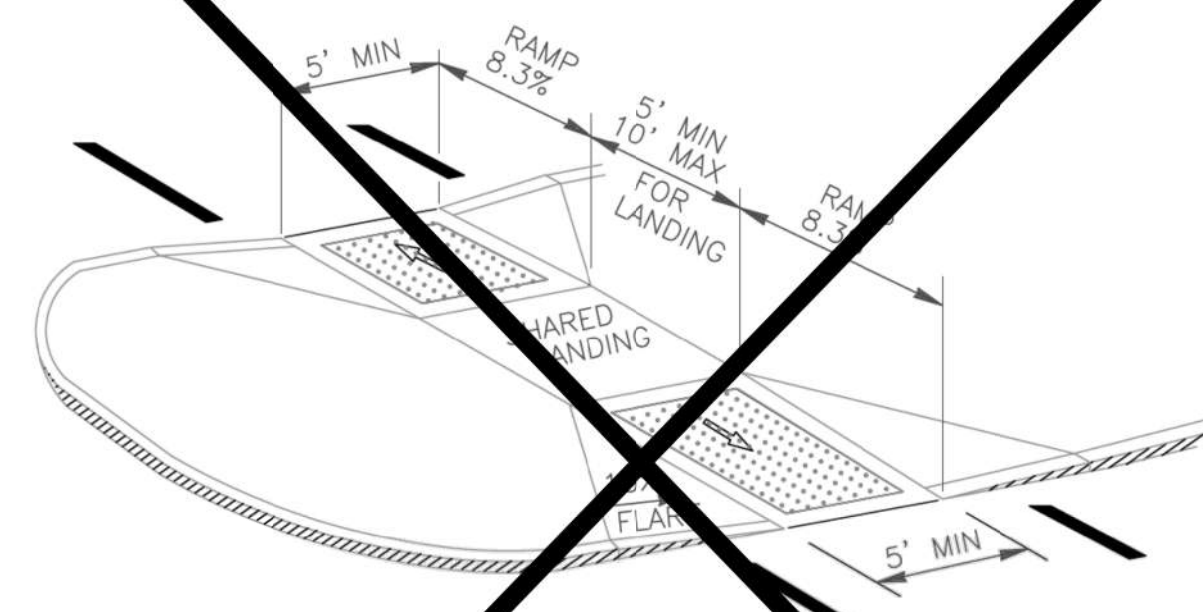
(ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' x 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.)

SL-ST-36

NOTES:

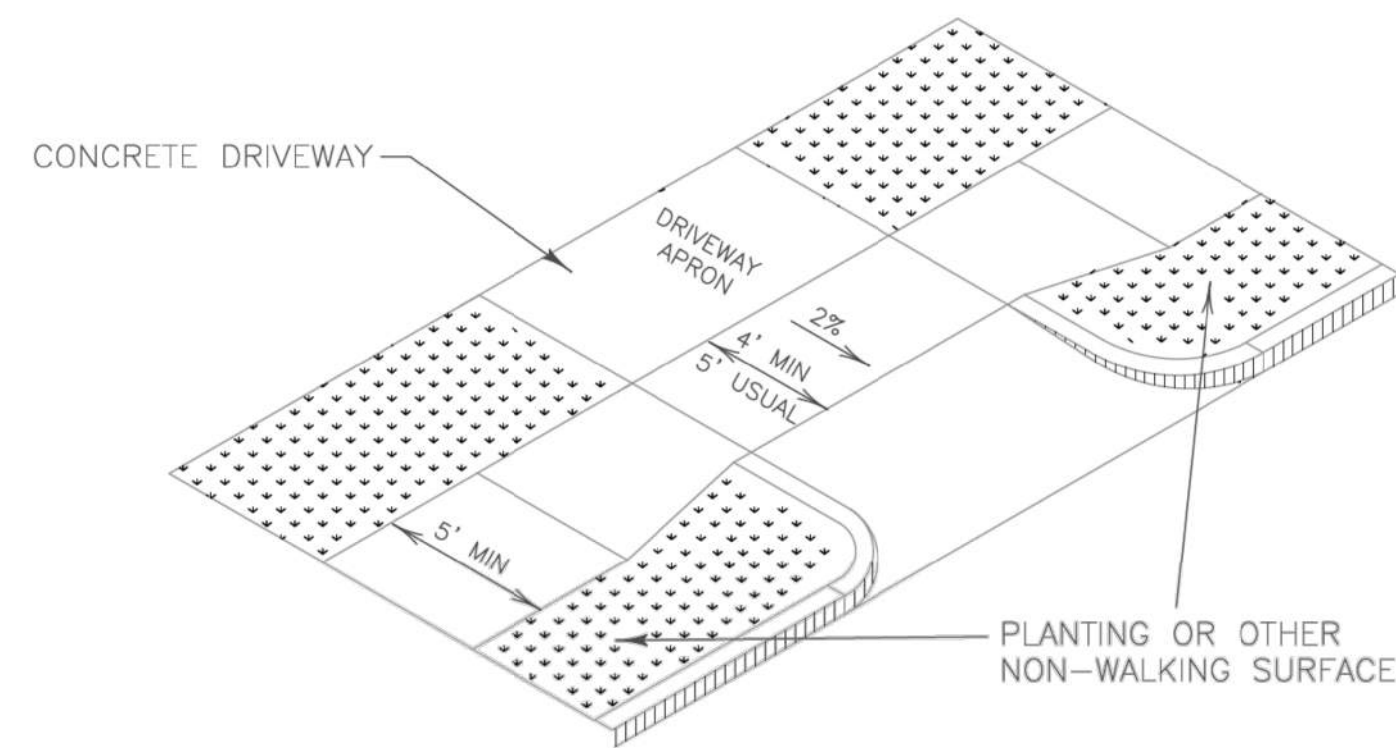
- ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS MAY BE ADJUSTED AS DIRECTED.
- THE MINIMUM SIDEWALK WIDTH IS 5' (FEET). THE LANDING SHALL BE 5' x 5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND RAMP SURFACES IS 2%. USUAL SIDEWALK CROSS SLOPE EQUALS 1.5%. CHANGES IN LEVEL GREATER THAN 1/4" (N.) ARE NOT PERMITTED.
- MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 5' x 5' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
- ANY PART OF THE ACCESSIBLE ROUTE WITH A SLOPE GREATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6" (N.) OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES, WITH THE FOLLOWING EXCEPTIONS:
 - HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
 - THE LEAST POSSIBLE GRADE SHOULD BE USED TO MAXIMIZE ACCESSIBILITY, WHERE STRUCTURALLY IMPRACTICAL TO ACHIEVE TEXAS ACCESSIBILITY STANDARDS (TAS) COMPLIANCE, THE RUNNING SLOPE OF SIDEWALKS AND CROSSWALKS, WITHIN THE PUBLIC R.O.W., MAY FOLLOW THE GRADE OF THE PARALLEL ROADWAY WITHOUT INVOKING TEXAS ACCESSIBILITY STANDARDS (TAS) VARIANCES FOR LANDINGS OR HANDRAILS. WHERE A CONTINUOUS GRADE GREATER THAN 5% MUST BE PROVIDED, HANDRAILS MAY BE DESIRABLE ON ONE OR BOTH SIDES OF THE SIDEWALK TO IMPROVE ACCESSIBILITY. HANDRAILS MAY ALSO BE NEEDED TO PROTECT PEDESTRIANS FROM POTENTIALLY HAZARDOUS CONDITIONS.
- CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. OTHERWISE, FLARED SIDES SHALL BE PROVIDED. ALL CONCRETE SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
- RAMP TEXTURES MUST CONSIST OF TRUNCATED DOME SURFACES, IN ACCORDANCE WITH ADA AND TEXAS DEPARTMENT OF LICENSING AND REGULATIONS (TDLR). TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. TEXTURES ALSO SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED.
- ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).
- RAISED MEDIANS SEPARATE OPPOSING DIRECTIONS OF TRAFFIC AND PROVIDE A REFUGE AREA FOR PEDESTRIANS UNABLE TO CROSS THE ENTIRE ROADWAY IN THE ALLOTTED SIGNAL PHASE. TO SERVE AS A REFUGE AREA, THE MEDIAN SHALL BE A MINIMUM OF 5' (FT.) WIDE. MEDIANS SHOULD BE DESIGNED TO PROVIDE ACCESSIBLE PASSAGE OVER OR THROUGH THEM.
- SMALL CHANNELIZATION ISLANDS, WHICH CAN NOT PROVIDE A MINIMUM 5' x 5' LANDING AT THE TOP OF RAMPS, SHALL BE CUT THROUGH LEVEL WITH THE SURFACE OF THE STREET.
- CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE ENGINEER.
- EXISTING FEATURES THAT COMPLY WITH T.A.S. MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
- TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SHALL BE PLACED SO NOT TO OBSTRUCT THE ACCESSIBLE ROUTE.

SL-ST-40



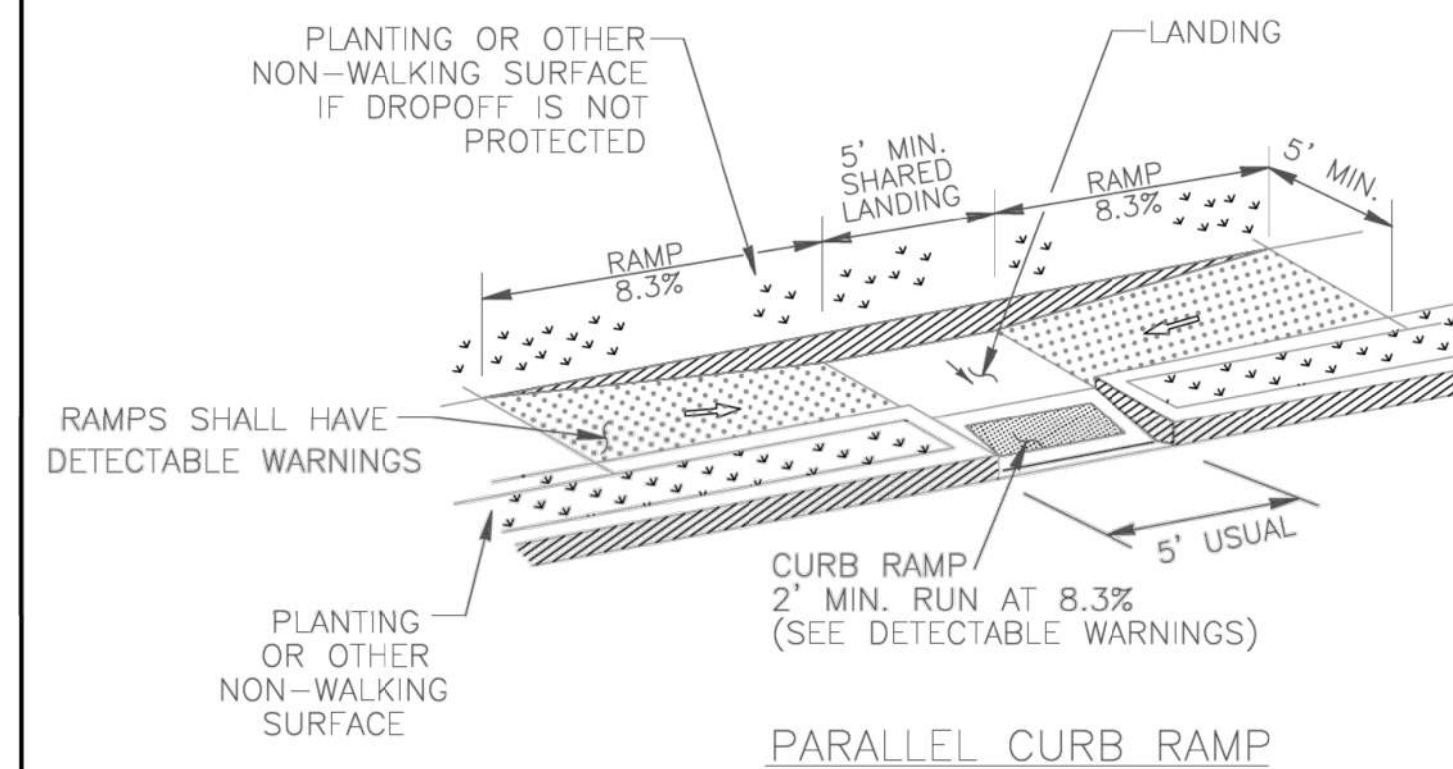
CURB RAMPS AT MEDIAN ISLANDS

SL-ST-37



SIDEWALK TREATMENT AT DRIVEWAYS

SL-ST-38



SL-ST-39

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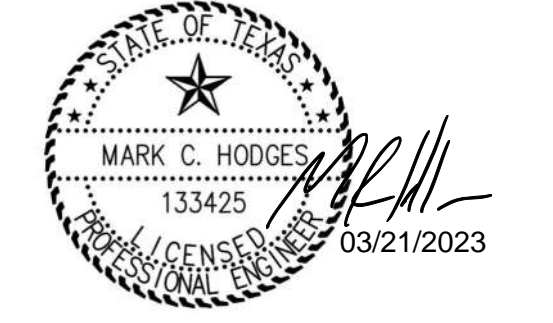
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APPR.	REVISION	DATE



2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS

121 S Velasco,
Angleton, Texas 77515

CITY OF ANGLETON
LIVE OAK RANCH

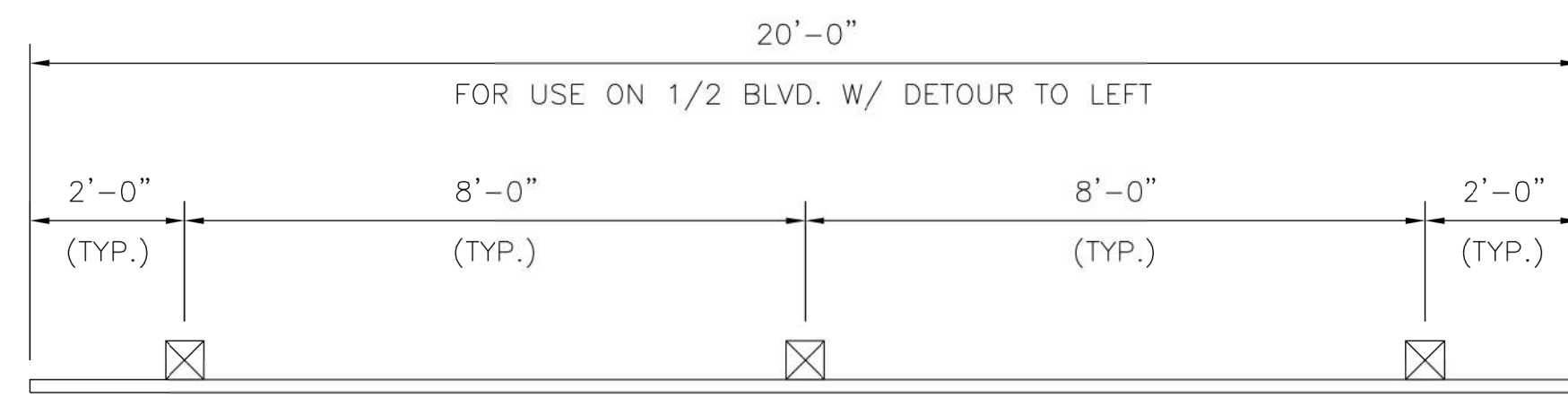
PAVING DETAILS
(6 OF 9)

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	1-21027000-01
DWIN	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

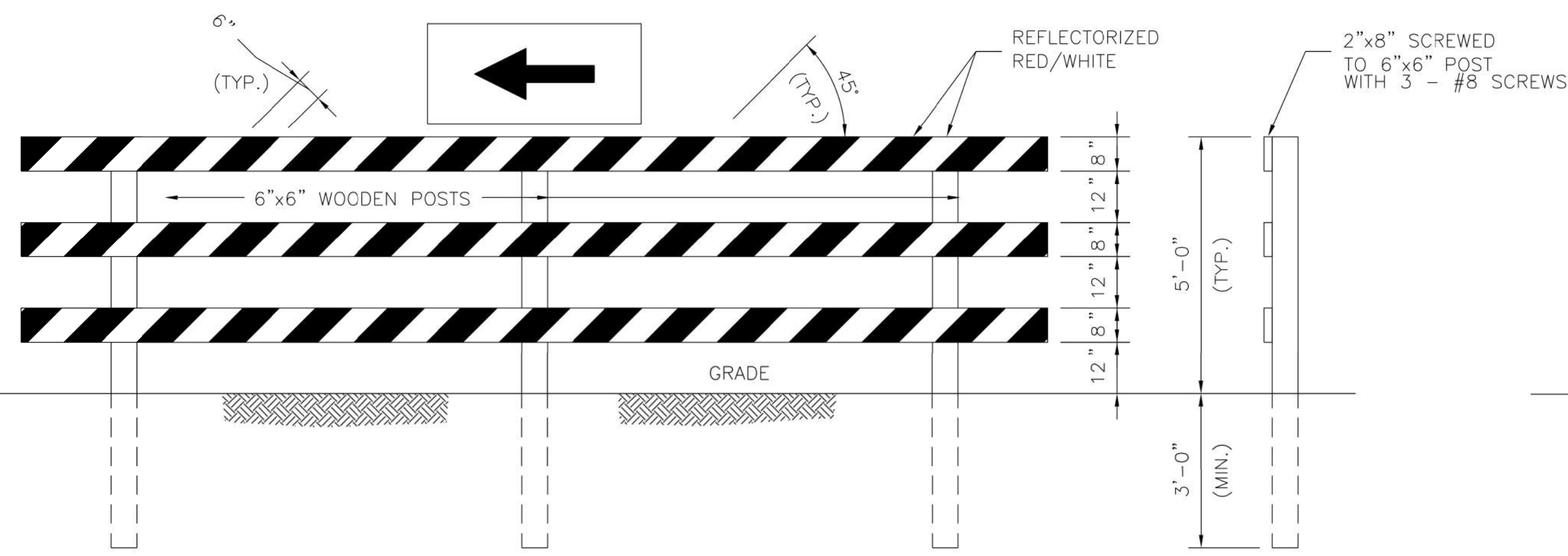
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REVISION DATE: OCTOBER 2021

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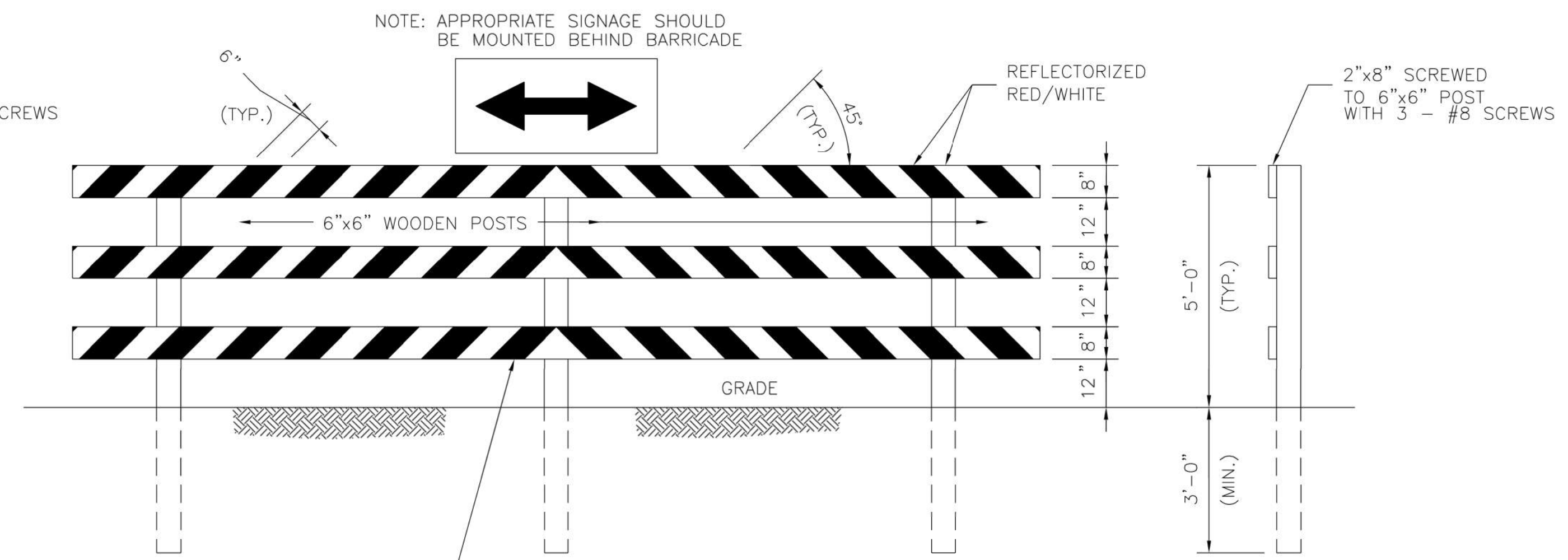


PLAN VIEW



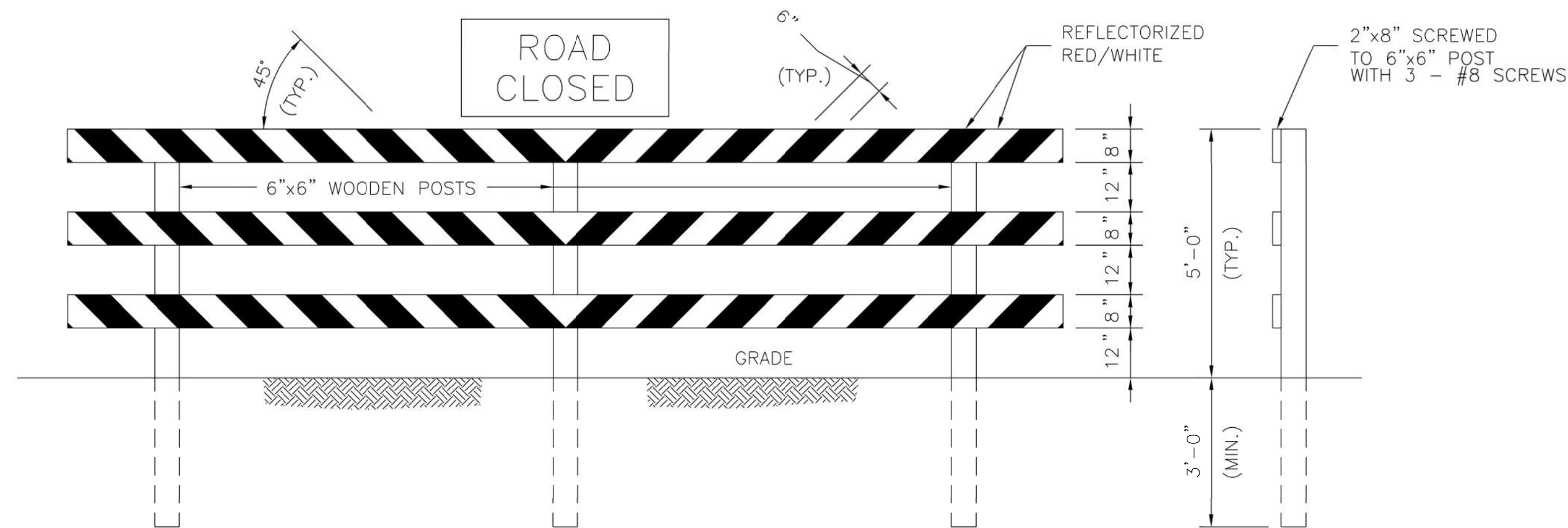
FRONT VIEW
DETOUR ROUTE

SIDE VIEW



FRONT VIEW
T-INTERSECTION

SIDE VIEW



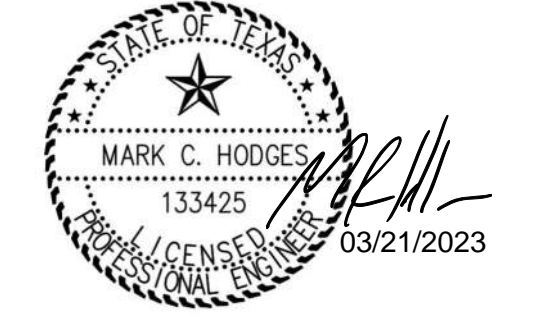
FRONT VIEW
ROAD CLOSED - NO OUTLET

SIDE VIEW

APPLICATION: PERMANENT AND SEMI-PERMANENT CLOSURE OF ROADWAY OR ROADWAY TERMINATION

BENCHMARK(S) / FLOODPLAIN		
BENCHMARK: ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.		
TEMPORARY BENCHMARK-A: TEMPORARY BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)		
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FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 4803504R0000 EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".		
APPR.	REVISION	DATE

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ENGINEERING GROUP
2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
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BRAZORIA COUNTY, TEXAS

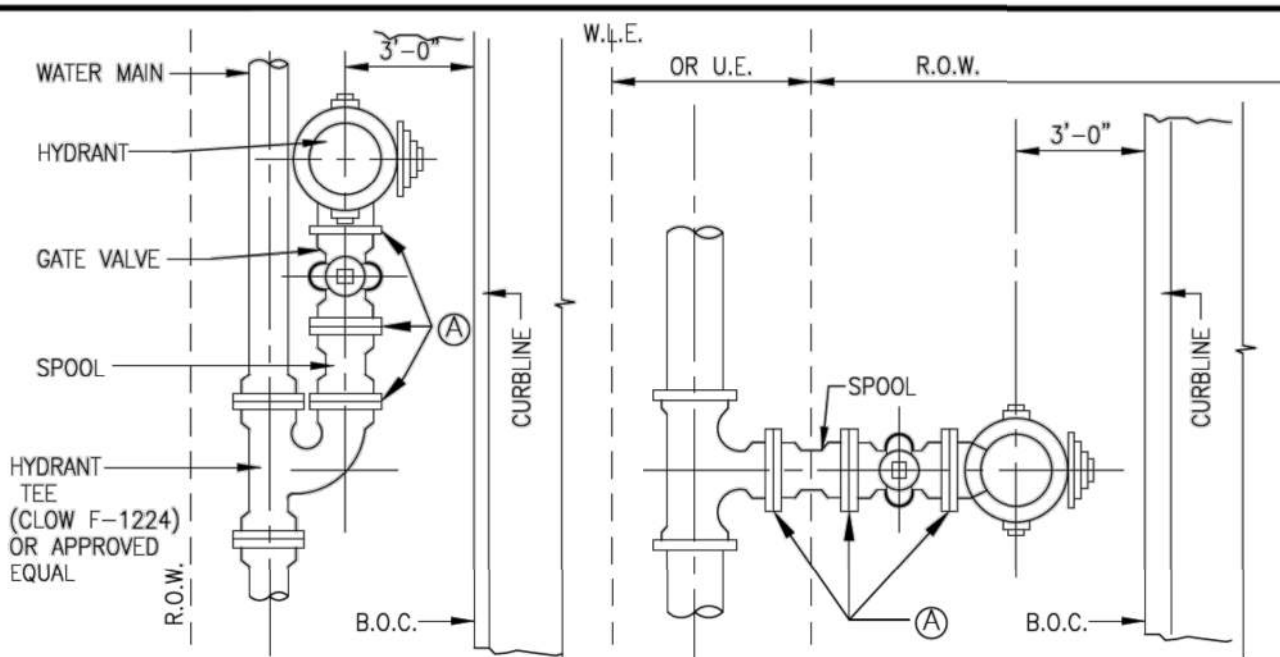
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CITY OF ANGLETON
LIVE OAK RANCH

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(7 OF 9)

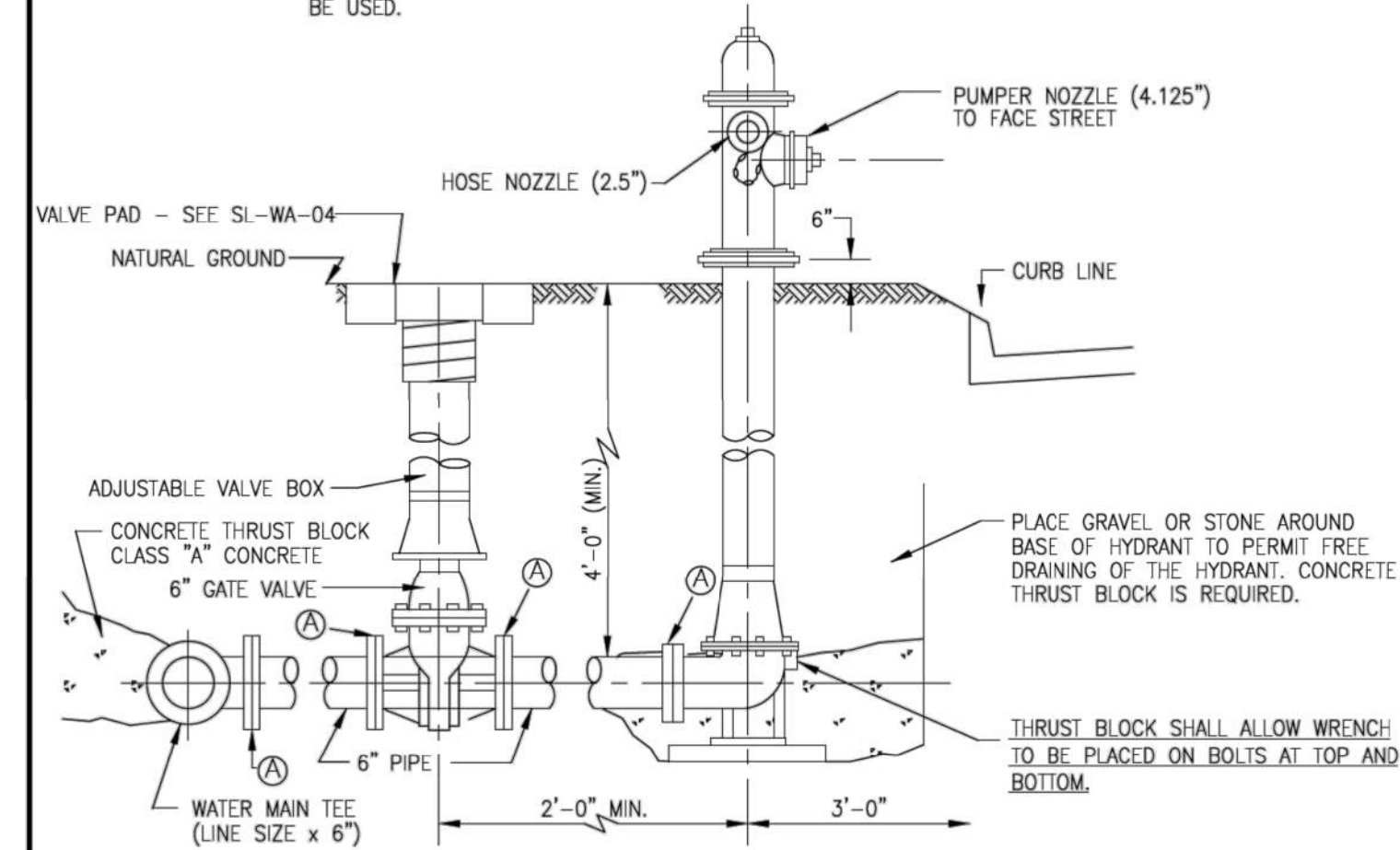
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SCALE: HORIZ. N/A	SHEET 30 OF 49 SHEETS
VERT. N/A	

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R.O.W. INSTALLATION
N.T.S. **EASEMENT INSTALLATION**
N.T.S.

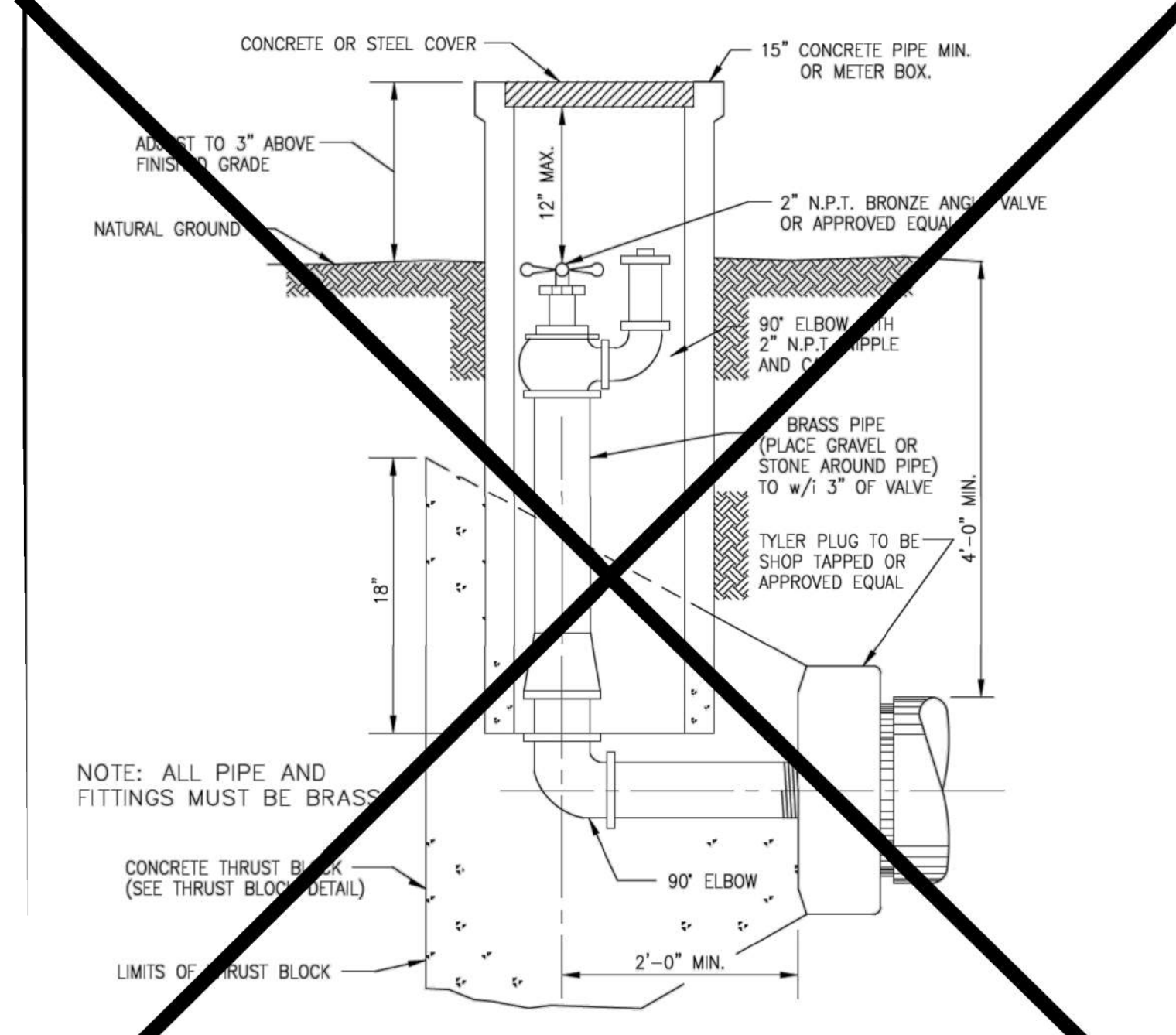
NOTE:
WHEN WATER LINE IS LOCATED IN EASEMENT, STANDARD TEE MAY BE USED.



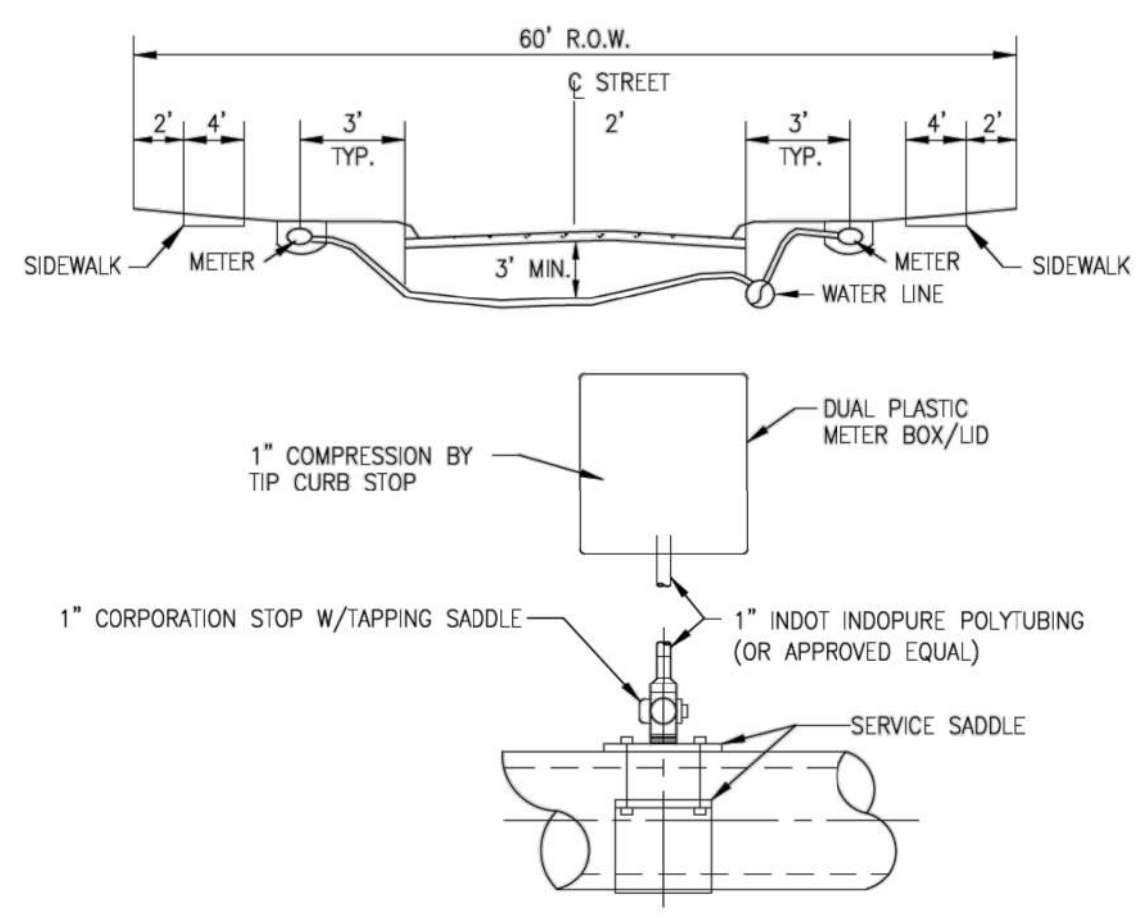
TYPICAL GATE & FIRE HYDRANT INSTALLATION
N.T.S. SL-WA-01

FLUSHING VALVE COLOR CODE
MAIN LINE DIAMETER: 6 INCHES (AND LESS) - YELLOW, 8 INCHES - WHITE, 12 TO 16 INCHES - GREEN, GREATER THAN 16 INCHES - ORANGE.
BONNET, PUMPER CAP AND STEAMER CAP: ALL FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 250 W/ STORZ INTEGRAL CONNECTOR OR APPROVAL EQUAL.
FIRE HYDRANT BODY TO BE PAINTED GEO-GLEN 301 BRIGHT SILVER ALUMINUM POLYURETHANE ENAMEL, BY GEO-GLEN ENTERPRISES OR APPROVED EQUAL.

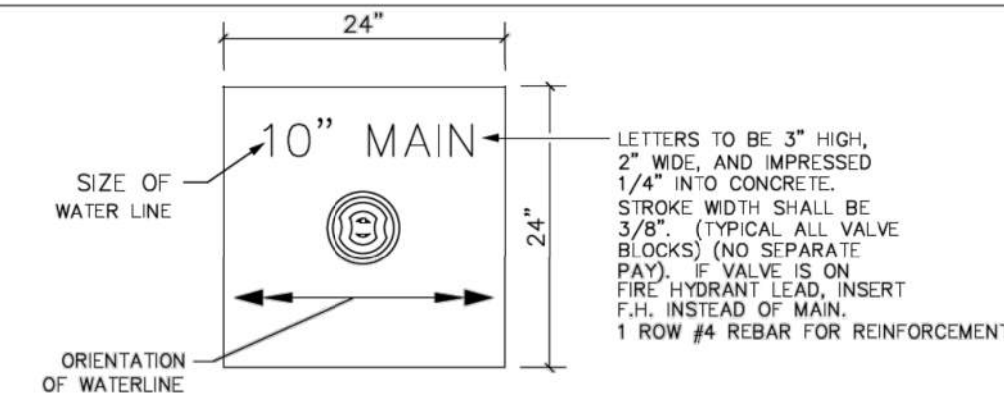
NOTE: ALL FLUSHING VALVES TO BE SAND BLASTED AND PAINTED AS PER C.O.S.L. DESIGN STANDARDS.



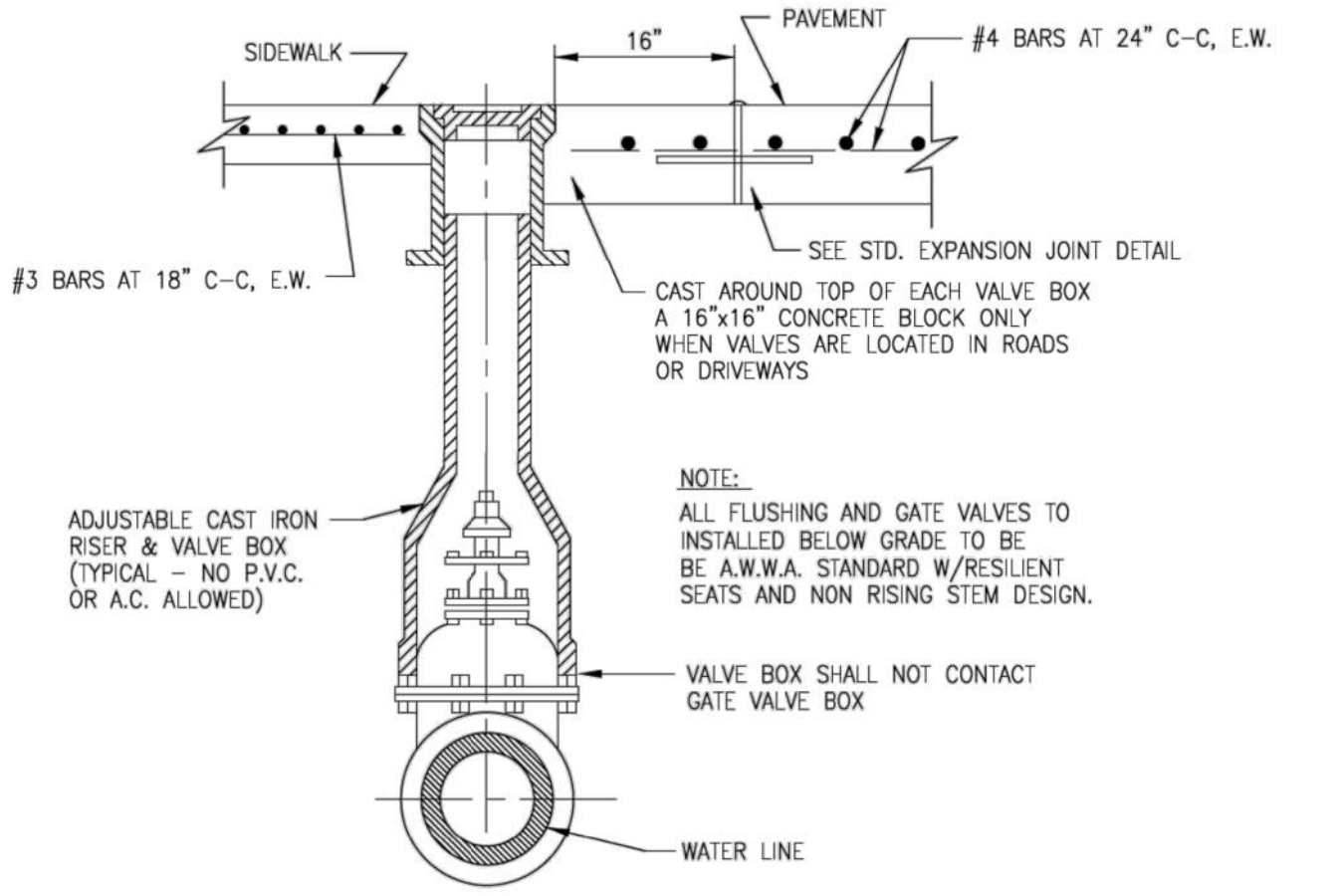
2" BLOW OFF VALVE ASSEMBLY
N.T.S. SL-WA-02



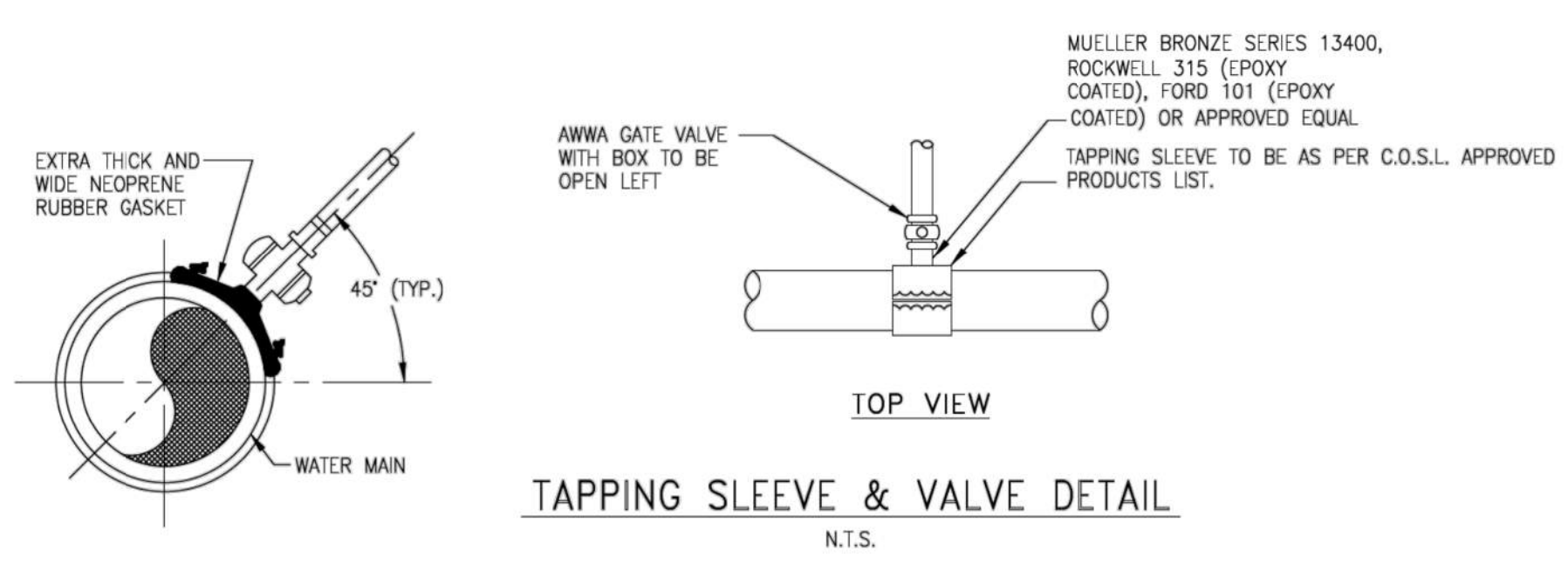
WATER SERVICE CONNECTION AND WATER SERVICE TAPPING ASSEMBLY DETAIL
N.T.S. SL-WA-03



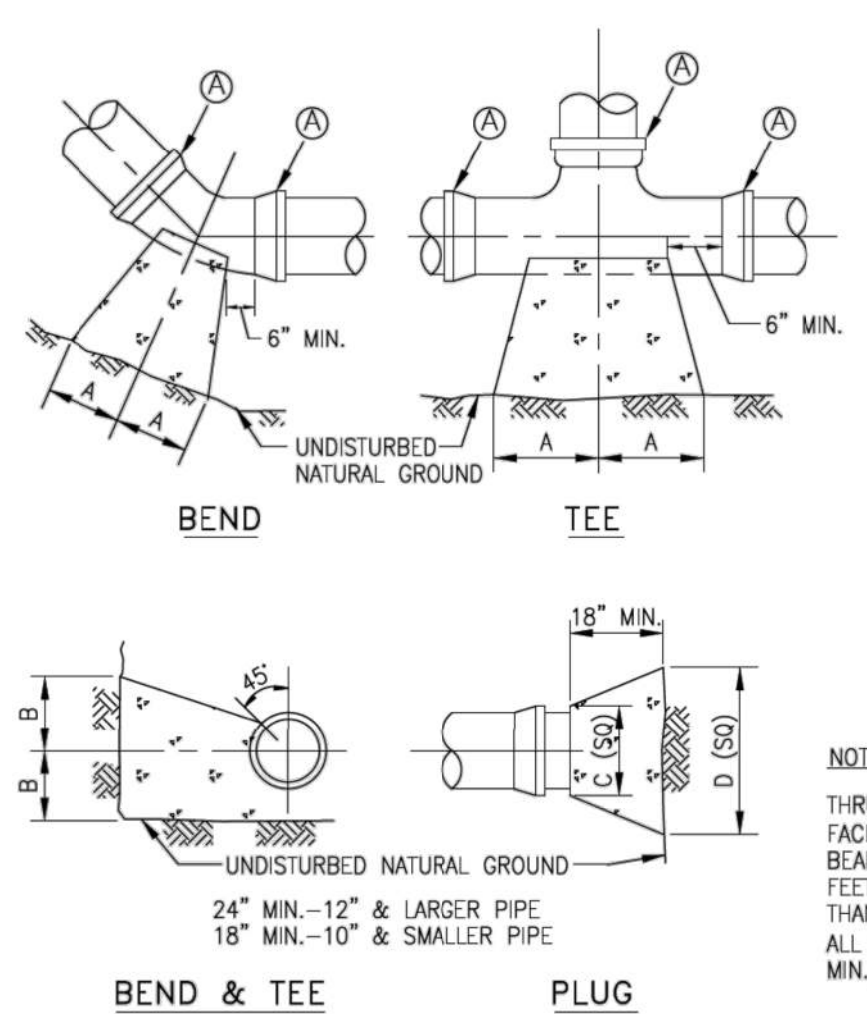
CONCRETE PAD
N.T.S. SL-WA-04



VALVE BOX INSTALLATION DETAIL
N.T.S. SL-WA-05



TAPPING SLEEVE & VALVE DETAIL
N.T.S. SL-WA-07



THRUST BLOCK DETAIL
N.T.S. SL-WA-08

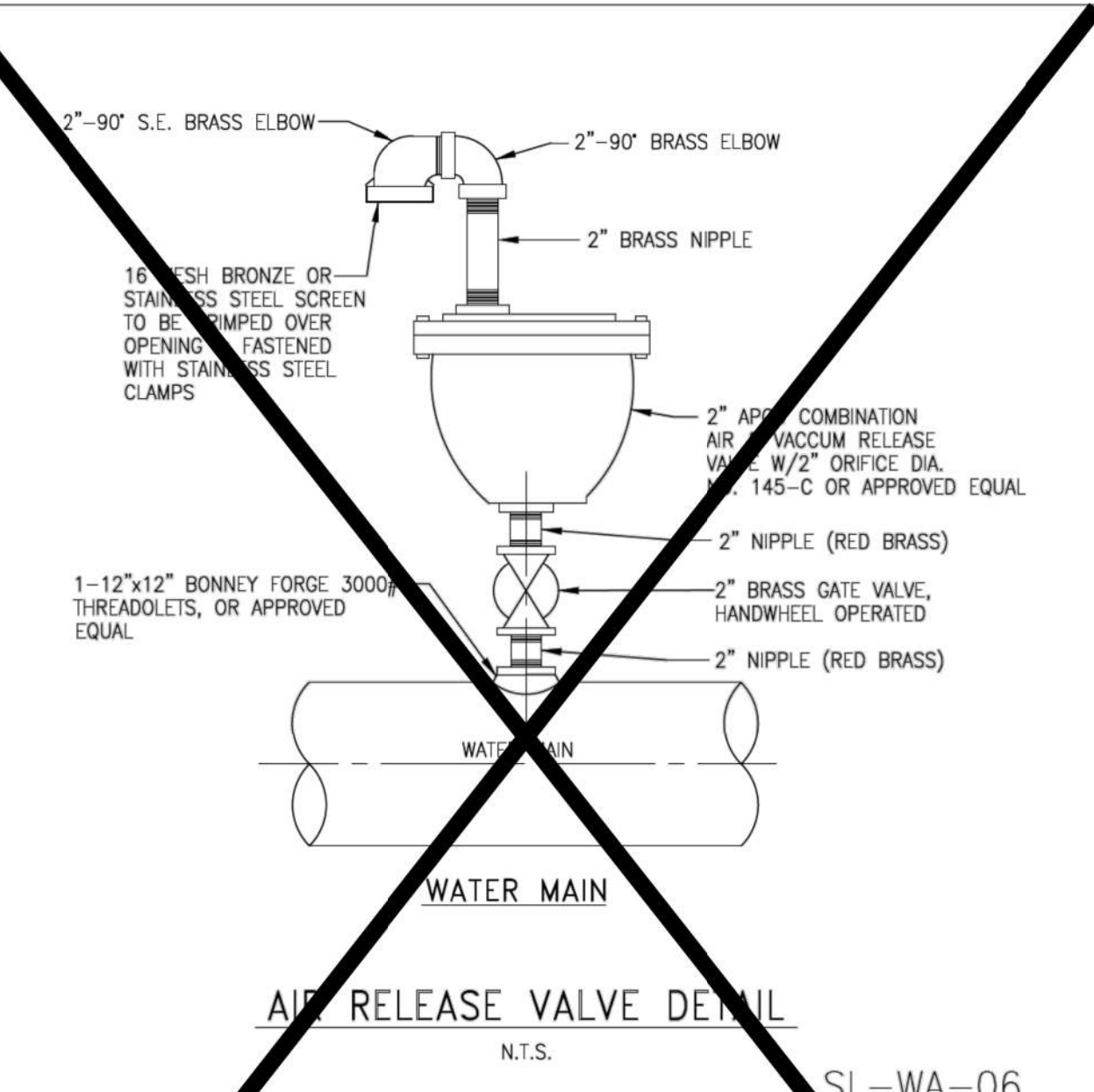
NOTES:
POLYETHYLENE WRAP FOR IRON PIPE

- NOTE:
- POLYETHYLENE FILM SHALL BE USED AS A WRAP TO PROTECT CAST IRON AND OTHER METALS IN A CORROSIVE SOIL ENVIRONMENT.
 - AN 8 MIL POLYETHYLENE FILM WRAP SHALL BE REQUIRED AROUND ALL METAL PIPE AND APPURTENANCES (EXCEPT FIRE HYDRANTS).
 - POLYETHYLENE FILM SHALL BE FURNISHED AND INSTALLED EITHER IN TUBULAR FORM PRIOR TO LOWERING THE PIPE IN TRENCH OR IN SHEET FORM.
 - POLYETHYLENE TUBE ENCASUREMENT SHALL CONFORM WITH THE MINIMUM REQUIREMENTS OF "POLYETHYLENE ENCASUREMENT FOR GRAY AND DUCTILE CAST-IRON PIPING FOR WATER AND OTHER LIQUIDS", ANSI/AWWA C105, CURRENT REVISION. SOILS WITHIN A PROJECT SHALL BE TESTED IN ACCORDANCE WITH APPENDIX A OF ANS/AWWA C105 TO ADEQUATELY DETERMINE THE REQUIREMENTS FOR ENCASUREMENT.
 - ALL FITTINGS AND PIPE JOINTS WITHIN 10' OF A FITTING SHALL HAVE RESTRAINT JOINTS

SIZE	90° BEND		45° BEND		22 1/2° BEND		TEES		PLUGS	
	A	B	A	B	A	B	A	B	A	B
2 1/2"	12"	7"	6"	7"	6"	6"	7"	8"	8"	14"
6"	16"	10"	9"	10"	6"	12"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
10"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"
12"	29"	21"	18"	21"	11"	16"	18"	24"	18"	41"
14"	35"	24"	19"	24"	12"	20"	22"	27"	18"	48"
16"	38"	27"	21"	27"	12"	24"	24"	30"	20"	54"
20"	50"	40"	30"	40"	18"	30"	30"	40"	30"	*78"
24"	50"	40"	30"	40"	18"	30"	30"	40"	30"	*78"
30"	60"	48"	36"	48"	20"	36"	36"	48"	36"	*96"

BENDS, TEES & PLUGS FOR PIPE OF VARIOUS SIZES

SL-WA-08



AIR RELEASE VALVE DETAIL
N.T.S. SL-WA-06

CONSTRUCTION NOTES:

- WATER LINES 12" (IN.) AND LESS SHALL BE AWMA C-900 DR18 WATER LINE GREATER THAN 12" (IN.) IN Ø SHALL BE AWMA C-905 DR 18
- ALL FLUSHING VALVES AND GATE VALVES TO BE AMERICAN WATER WORKS ASSOC. (AWMA) STANDARD COUNTERCLOCKWISE OPENING WITH NON-RISING STEM DESIGN.
- ALL DUCTILE IRON PIPE SHALL BE CLASS 50 MORTAR LINED. NO A.C. PIPE WILL BE ALLOWED AND ALL DUCTILE IRON FITTINGS SHALL BE MORTAR LINED PUSH ON OR MECHANICAL JOINTS.
- ALL BACKFILL WITHIN THE R.O.W. SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- MINIMUM SPACING BETWEEN TAPS SHALL BE 2' AT ALTERNATING TAP ANGLES.

SL-WA-08

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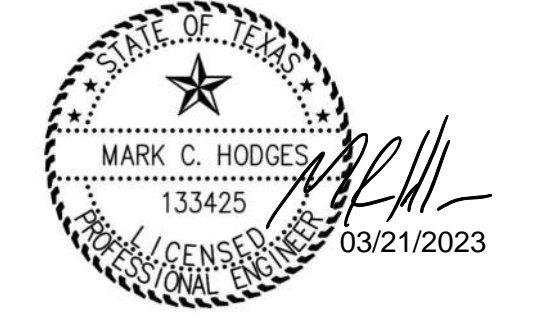
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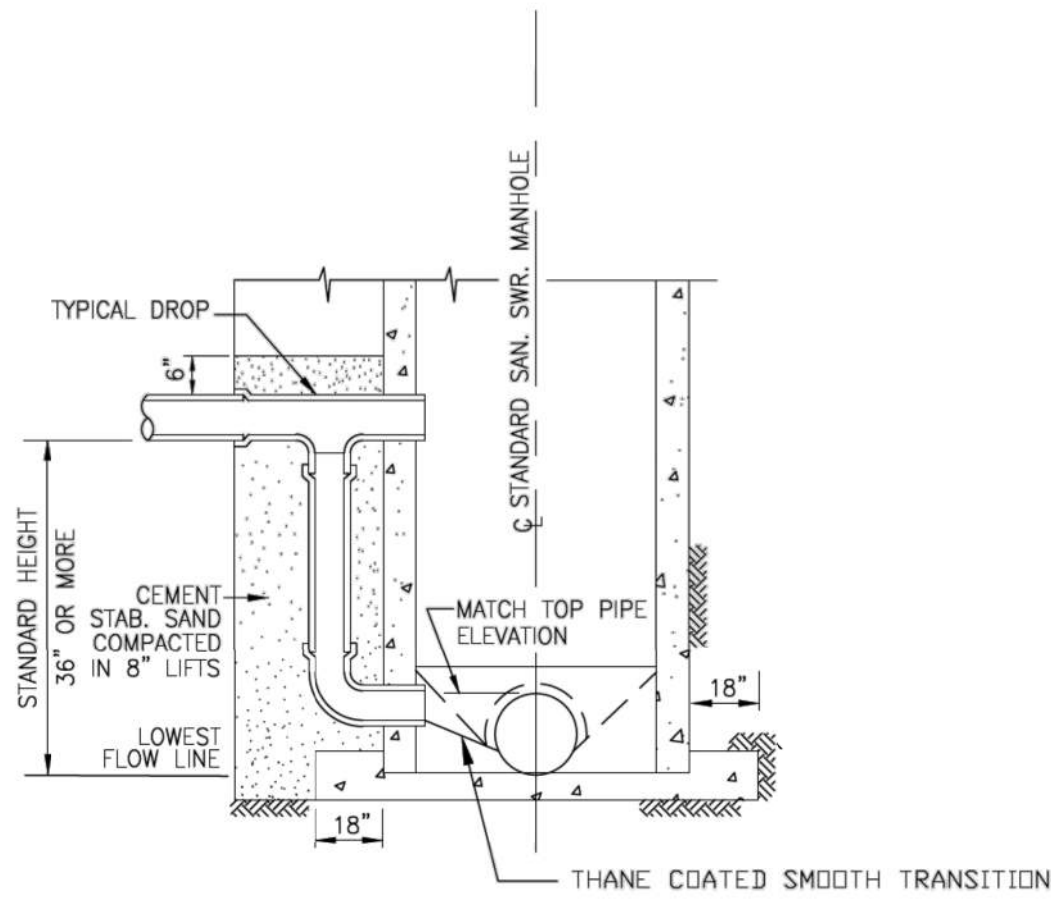
**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
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**CITY OF ANGLETON
LIVE OAK RANCH**

**WATER DETAILS
(1 OF 2)**

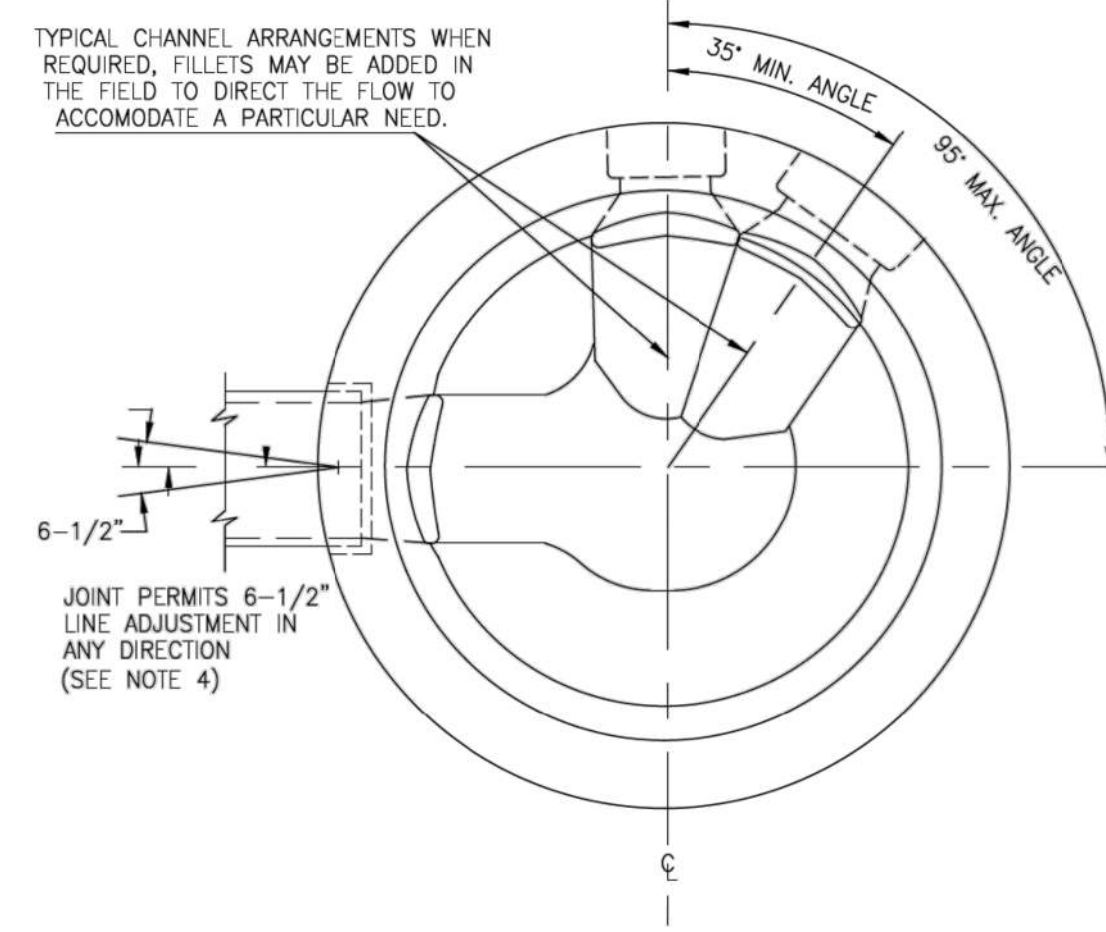
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APPR.	MCH	DATE	3/23		
SCALE:	HORIZ	NIA			
	VERT.	NIA			



STANDARD DROP DETAIL

(SEE C.S.S. NOTES)

SL-SS-05



PIPING CONNECTIONS DETAIL

SL-SS-05A

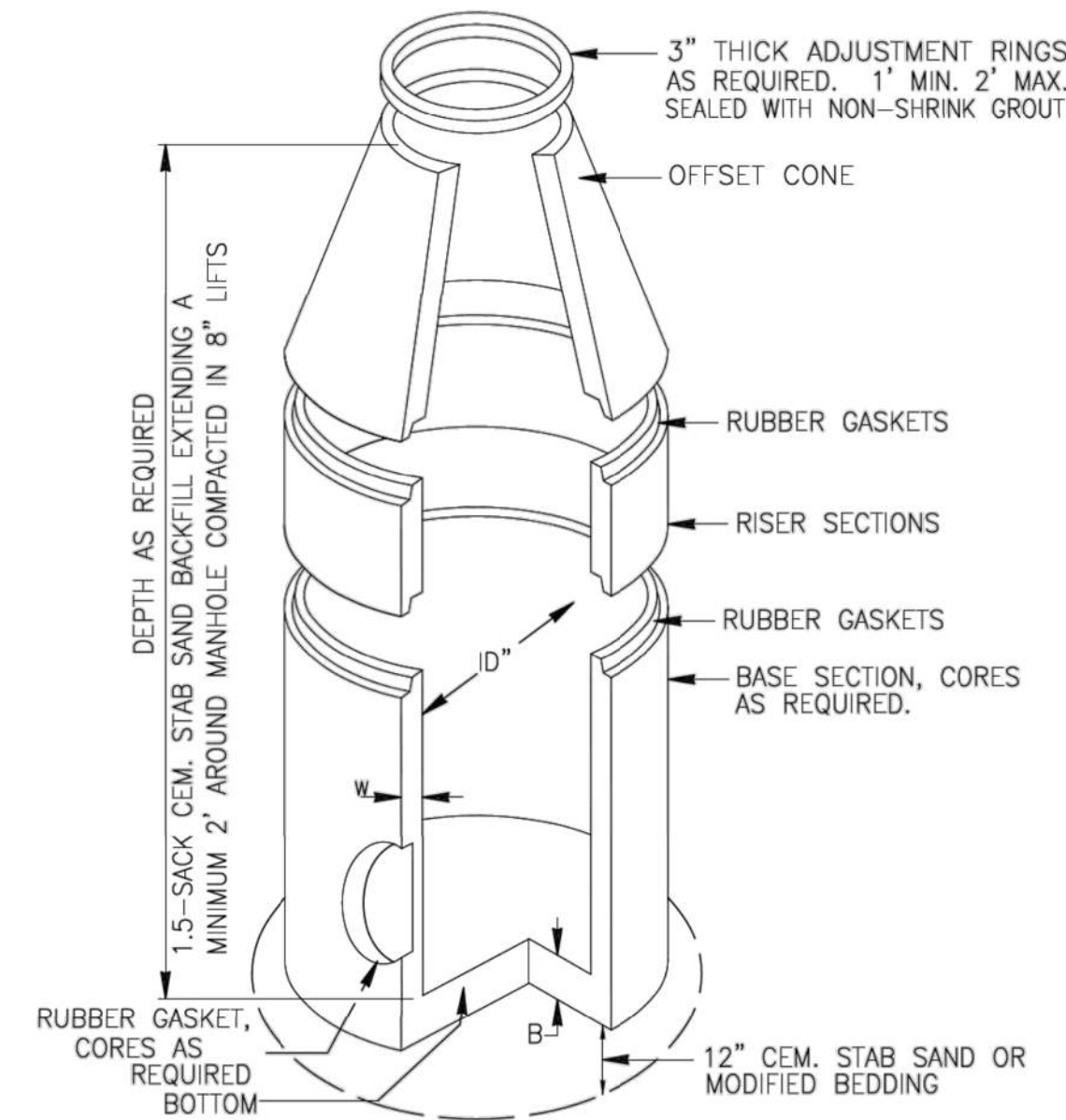
NOTE:

1. INFLUENT AND EFFLUENT PIPING CONNECTIONS TO MANHOLE SHALL BE ALIGNED TO PREVENT REVERSE FLOW.
2. INFLUENT AND EFFLUENT CONNECTIONS ARE LIMITED TO A MAXIMUM 90° INCLUDED ANGLE OF CONVERGENCE.
3. MINIMUM 35° AND MAXIMUM 90° INCLUDED ANGLES MUST BE PROVIDED BETWEEN MULTIPLE INFLUENT CONNECTIONS.
4. ANGLE OF DEFLECTION AT PIPING JOINTS AS PER MANUFACTURE'S RECOMMENDATIONS.

NOTES:

1. CONTRACTOR SHALL CONTACT CITY OF SUGAR LAND ENGINEERING DEPARTMENT AT (281) 275-2780 IF WET SAND OR OTHER UNSTABLE SOIL CONDITIONS, HIGH WATER TABLE AND/OR UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED.
2. SHOULD A CONFLICT ARISE BETWEEN INFORMATION DEPICTED ON APPROVED CONSTRUCTION DRAWINGS AND INFORMATION INCLUDED IN PROJECT SPECIFICATIONS, CITY OF SUGAR LAND DESIGN STANDARDS SHALL GOVERN.
3. SANITARY SEWER MANHOLES SHALL BE CONSTRUCTED A MINIMUM OF FOUR FEET FROM BACK OF CURB ON CURB AND GUTTER ROADWAYS AND THREE FEET FROM EDGE OF TRAVELLED ROADWAY ON THOSE THOROUGHFARES HAVING NO CURBING, MEASURED FROM OUTSIDE DIAMETER OF MANHOLE. SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED BENEATH STREET PAVING EXCEPT WHERE SPECIFICALLY AUTHORIZED BY CITY ENGINEER AND SO DESIGNATED ON APPROVED CONSTRUCTION DRAWINGS.
4. ALL SUCH MANHOLE COVERS SHALL HAVE THE CITY OF SUGAR LAND EMBLEM AND THE WORDS "SUGAR LAND" AND "SANITARY SEWER" CAST IN RAISED RELIEF AS DEPICTED IN CITY OF SUGAR LAND STANDARD CONSTRUCTION DETAILS SHEETS. ALL SANITARY SEWER MANHOLES SHALL INCORPORATE INFLOW PROTECTORS.
5. MANHOLE RIM ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY. CONTRACTORS SHALL ADJUST RIM ELEVATIONS TO 0.4 FEET ABOVE FINISHED GRADE WITHIN RIGHTS-OF-WAY AND EASEMENTS AT EACH MANHOLE LOCATION AFTER FINAL GRADING. ADJUSTMENTS TO MANHOLE RIM ELEVATIONS SHALL BE ACCOMPLISHED BY THE USE OF THROAT RINGS ONLY (MAX. OF 24 INCHES PERMITTED). THE AREA ADJACENT TO SANITARY SEWER MANHOLE LOCATIONS SHALL BE GRADED AWAY FROM SUCH MANHOLES SO AS TO PREVENT ENTRY OF STORM WATER RUNOFF TO THE SANITARY SEWER SYSTEM.
6. DROP CONNECTIONS ARE REQUIRED WHEN INVERT ELEVATION OF SEWER LINE TO BE CONNECTED EXCEEDS 36 INCHES DISTANCE ABOVE INVERT ELEVATION OF MANHOLE BASE. ALL DROP CONNECTIONS SHALL BE CONSTRUCTED OF SAME MATERIALS AS SEWER AND SHALL BE CONSTRUCTED EXTERIOR TO MANHOLE. INSIDE DROP ALLOWED ON MANHOLES 12-FT & DEEPER. PIPE CONNECTIONS TO MANHOLES SHALL BE SO CONSTRUCTED AS TO BE WATERTIGHT AND TO ALIGN UPPER INSIDE PIPE WALL ELEVATIONS OF ALL PIPING CONNECTED TO BASE OF MANHOLE UNIFORMLY, REGARDLESS OF PIPE DIAMETERS. DROP ASSEMBLIES SHALL BE BEDDED IN CEMENT STABILIZED SAND. CEMENT STABILIZED SAND SHALL EXTEND A MINIMUM OF SIX INCHES PAST PIPING. LATERALLY FROM BASE OF MANHOLE UPWARD TO A POINT SIX INCHES (MINIMUM) ABOVE THE HORIZONTAL SEWER PIPING WHERE CONNECTED TO THE MANHOLE ABOVE THE VERTICAL DROP.
7. CONNECTIONS TO EXISTING AND/OR NEW SANITARY SEWER MANHOLES CONSTRUCTED OF PRECAST CONCRETE NOT HAVING PRECURED HOLES OF CORRECT DIAMETER, LOCATION AND FIELD CORING ONLY SHALL ACCOMPLISH INVERT ELEVATION. IN NO INSTANCE WILL EITHER MANUAL OR PNEUMATIC CHISELS AND/OR HAMMER DRILLS BE UTILIZED TO BREAK HOLES IN PRECAST CONCRETE MANHOLES, PIPE SEGMENTS OR OTHER PRECAST STRUCTURES SUCH AS LIFT STATIONS.
8. BEDDING AND BACKFILL OF SANITARY SEWER PIPING AND MANHOLES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH CITY OF SUGAR LAND DESIGN STANDARDS. A 1.5-SACK MIX IS REQUIRED FOR ALL CEMENT STABILIZED SAND BEDDING AND SUCH BEDDING SHALL BE INSTALLED IN LIFTS OF EIGHT INCHES MAXIMUM.
9. SOLVENT WELDED JOINTS ARE NOT AN ACCEPTABLE JOINING METHOD FOR SANITARY SEWERS CONSTRUCTED OF PVC PIPING MATERIALS AND LOCATED WITHIN RIGHTS-OF-WAY OR EASEMENTS. RUBBER GASKETED BELL AND SPIGOT SANITARY SEWER JOINTS ARE MANDATORY. BELL (FEMALE) ENDS OF PIPE SHALL BE INSTALLED ON UPSTREAM SIDE WITH SPIGOT (MALE) ENDS ORIENTED DOWNSTREAM.
10. SANITARY SEWER SERVICE LEADS SHALL BE EXTENDED TO RIGHTS-OF-WAY AND/OR EASEMENT LINES AS APPLICABLE AND CAPPED/PLUGGED FOR FUTURE CONNECTIONS. SERVICE LEADS ARE TO BE INSTALLED SO AS TO PASS UNDER POTABLE WATER PIPING AT CROSSINGS WHERE POSSIBLE.
11. EACH SANITARY SEWER SERVICE LEAD STUB, PLUGGED WYE BRANCH OUTLET AND STACK SHALL BE MARKED WITH A PRESSURE TREATED 4 X 4 TIMBER AT THE TIME OF CONSTRUCTION, BEGINNING AT THE INVERT ELEVATION OF THE STUB OR WYE AND AT AN ELEVATION TWO FEET BELOW THE CAPPED TERMINATION POINT OF THE STACK AND EXTENDING TWO FEET ABOVE FINISHED GRADE. EACH TIMBER MARKER SHALL BE PAINTED RED AND LABELED "SANITARY SEWER STUB", "SANITARY SEWER WYE" OR "SANITARY SEWER STACK" AS APPROPRIATE WITH STUB, WYE BRANCH OUTLET OR STACK SIZE NOTED.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION. DURING THE COURSE OF ANY AND ALL CLEARING, GRUBBING, FILL, GRADING, EXCAVATION OR OTHER CONSTRUCTION, CONTRACTOR SHALL ENSURE THAT STORM DRAINAGE PATHWAYS ARE MAINTAINED AND REMAIN OPEN TO ENSURE POSITIVE DRAINAGE AND THAT SUCH CONVEYANCES ARE NOT IMPEDED OR BLOCKED IN ANY WAY. STORM SEWER INLETS SHALL BE PROTECTED FROM ENTRY OF SILT, TRASH, DEBRIS AND ANY SUBSTANCES DELETERIOUS TO THE STORM SEWER SYSTEM AND/OR WATERWAYS RECEIVING STORM WATER RUNOFF. CONTRACTOR SHALL AT COMPLETION OF WORK, FILL LOW SPOTS AND GRADE ALL RIGHTS-OF-WAY AND UTILITY EASEMENTS AND REGRADE/RESTORE DITCHES AS NECESSARY TO MAINTAIN AND/OR ESTABLISH POSITIVE DRAINAGE.
13. ALL SANITARY SEWER PIPING AND BEDDING SHALL BE INSPECTED BY CITY CONSTRUCTION INSPECTOR FOR CONFORMANCE WITH CITY INFRASTRUCTURE STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY NOTIFY THE CITY OF ALL CONSTRUCTION ACTIVITIES AND TO CONFORM TO CITY OF SUGAR LAND PUBLIC WORKS DEPARTMENT INSPECTION POLICY.
14. C.S.S. 1" ABOVE PIPE AND 6" BELOW PIPE MINIMUM.
15. SEE GENERAL NOTES AND C.S.S. NOTES.
16. CAST IN PLACE MANHOLES ACCEPTED, 4500 PSI CONCRETE.

SL-SS-07



SPECIFICATIONS:

- CONCRETE: CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. RATES FOR HL93 LOADING.
- REINFORCEMENT: STRUCTURAL REINFORCEMENT CONFORMING TO ASTM-C-478.
- C.I. CASTINGS: CAST IRON FRAMES AND LIDS ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 35.

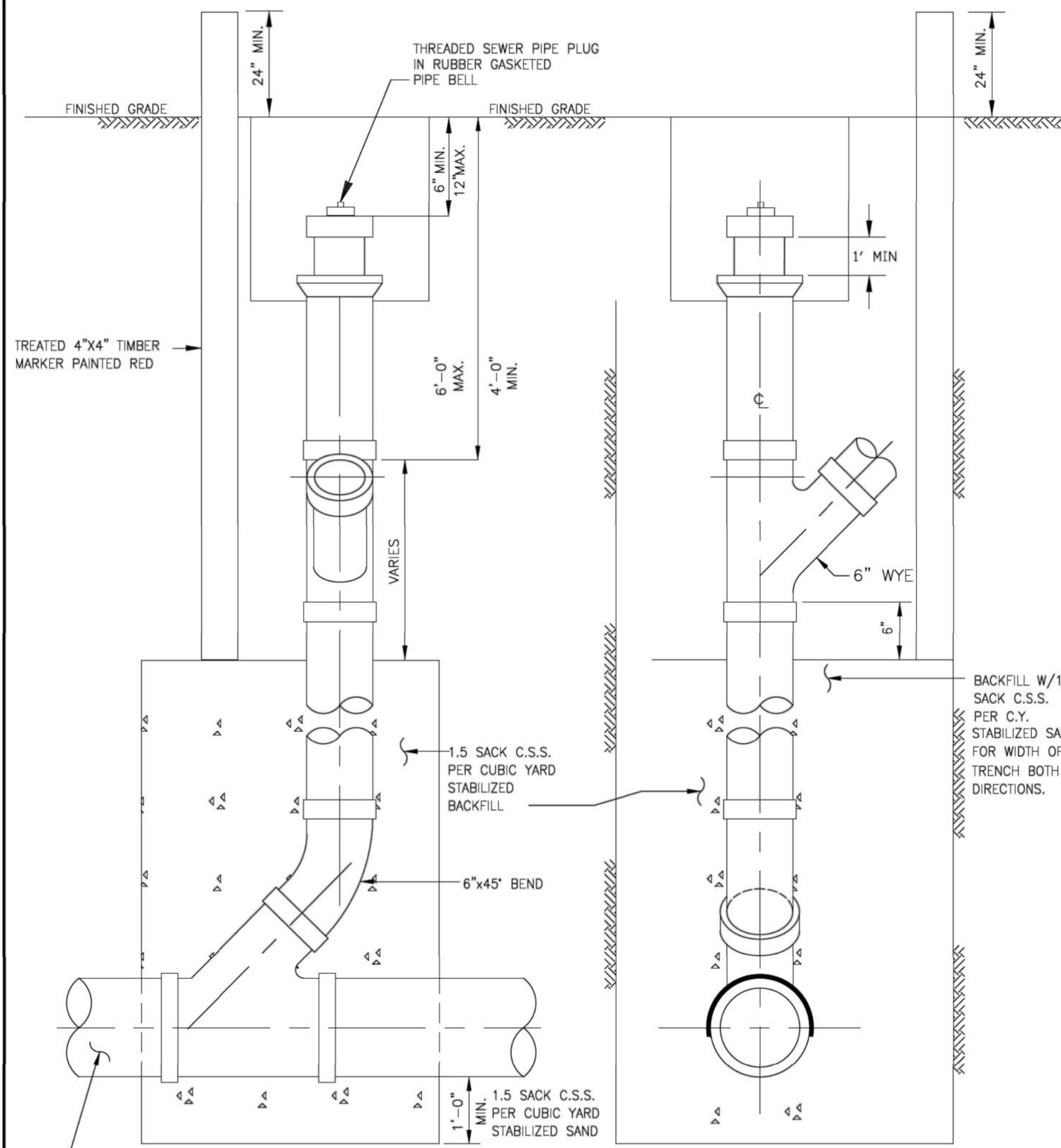
NOTES

1. LIFTING INSERTS AS REQUIRED.
2. ALL JOINTS SHALL BE SEALED WITH APPROVED RUBBER GASKET
3. STRUCTURE TO BE PLACED ON 12" STABILIZED BASE.
4. C.S.S. SHALL BE BROUGHT TO WITHIN 2'-FT OF TOP OF MANHOLE.
5. PRE-CAST MANHOLE SHALL BE IN COMPLIANCE APPROVED PRODUCT LIST.
6. THANE COAT SHALL BE IN COMPLIANCE WITH APPROVED PRODUCT LIST.
7. INVERTS SHALL COMPLY WITH C.O.S.L., DESIGN MANUAL SPECIFICATIONS.
8. INFLOW PROTECTORS REQUIRED ON ALL SANITARY MANHOLES.
9. REFER TO SANITARY MANHOLE LIDS, C.S.S. NOTES, MODIFIED BEDDING DETAILS AND NOTES.

PRECAST SANITARY MANHOLE

N.T.S.

SL-SS-03



TRENCH SIDE VIEW

TRENCH END VIEW

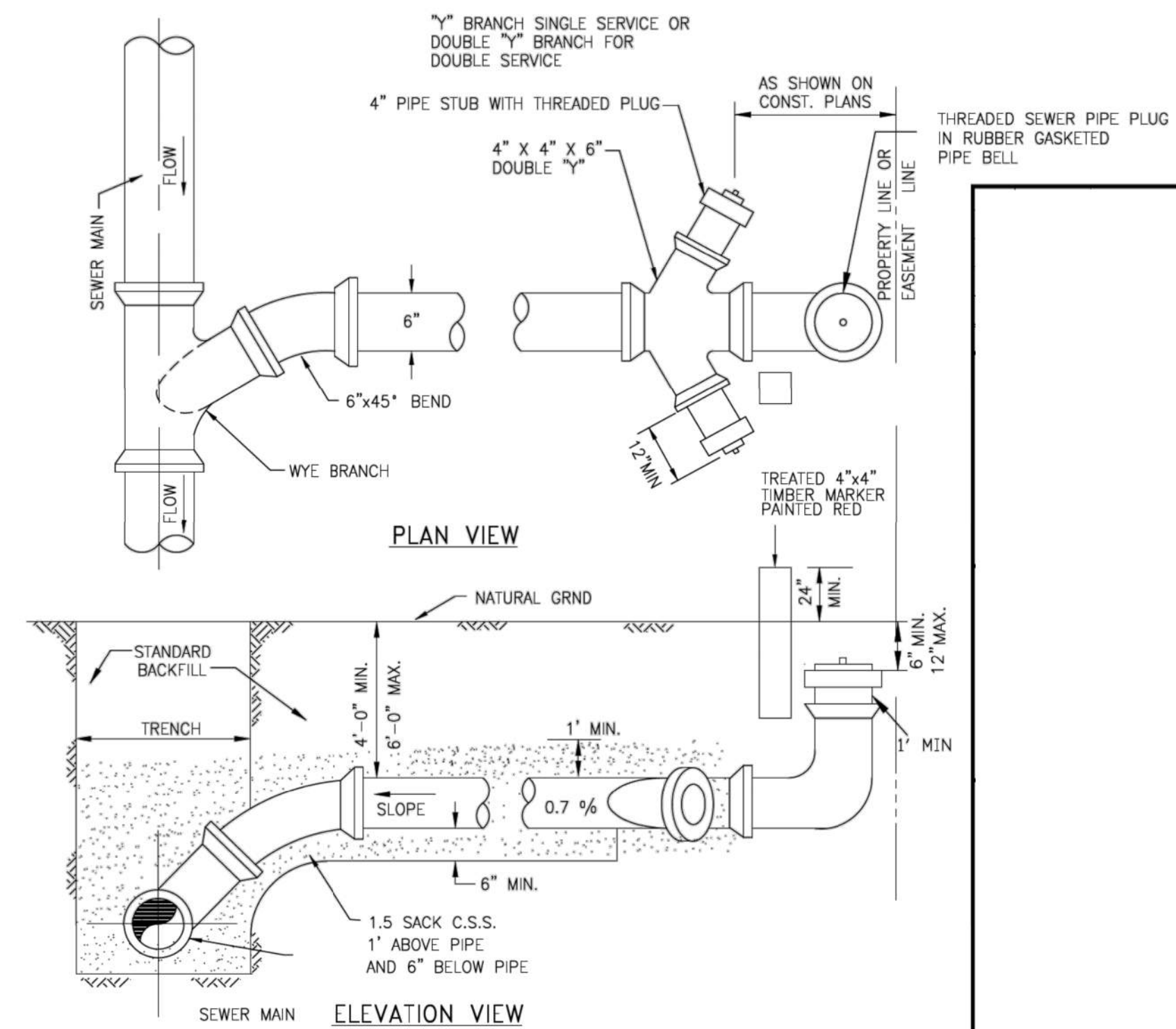
STACK DETAIL

N.T.S.

SL-SS-04

NOTES:

- A) NO STACKS ON MAINS OVER 16' DEEP OR IN WET SAND CONDITIONS.
- B) ALL STACK CONNECTIONS SHALL BE IN-LINE FITTINGS.



SANITARY SEWER SERVICE CONNECTION

N.T.S.

SL-SS-06

BENCHMARK(S) / FLOODPLAIN

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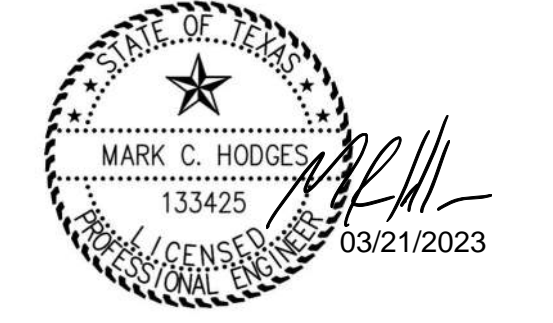
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**CITY OF ANGLETON
LIVE OAK RANCH**

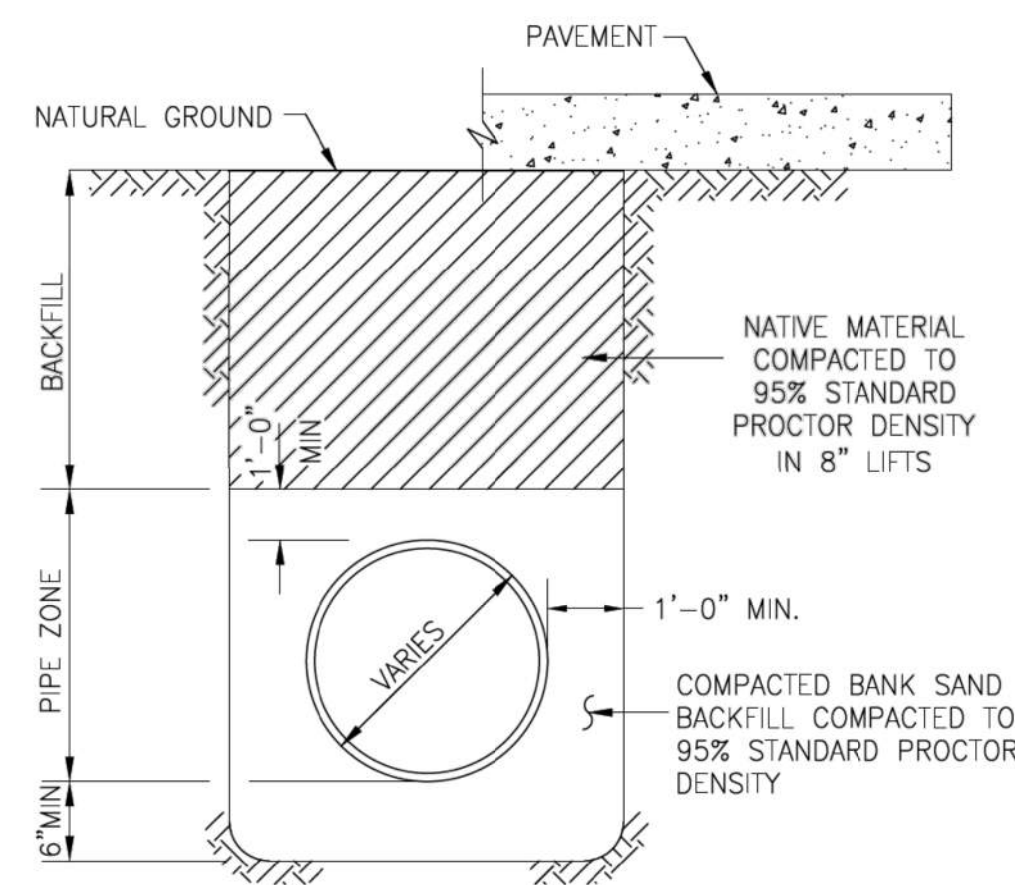
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SCALE:	HORIZ.	NIA	VERT.	NIA	SHEET	35 OF 49 SHEETS

REVISION DATE: OCTOBER 2021

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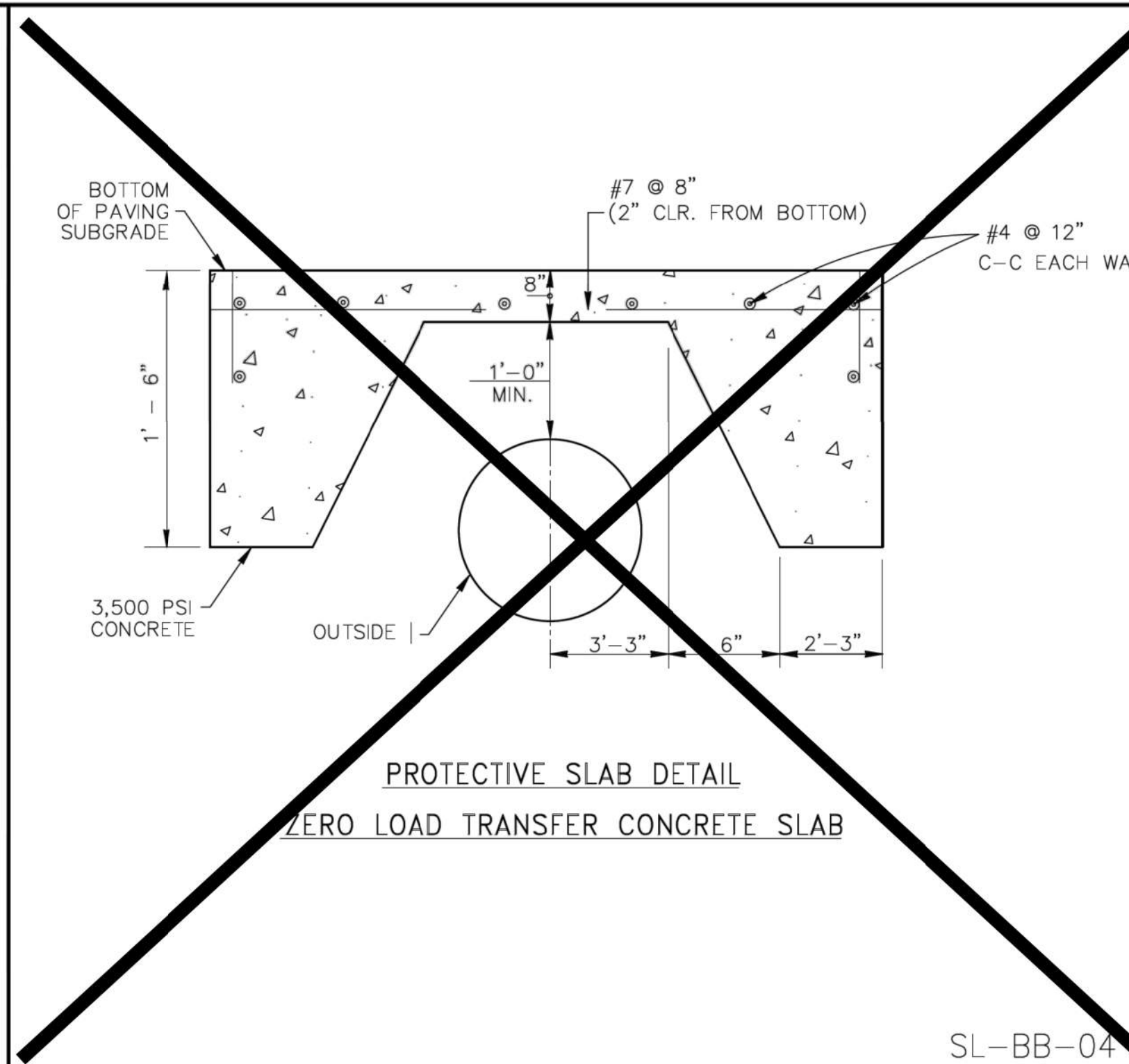


P.V.C. PIPE BEDDING & BACKFILL

N.T.S.
*SEE CONSTRUCTION NOTES

SANITARY FORCE MAIN & WATER LINE
BEDDING AND BACKFILL

SL-BB-01



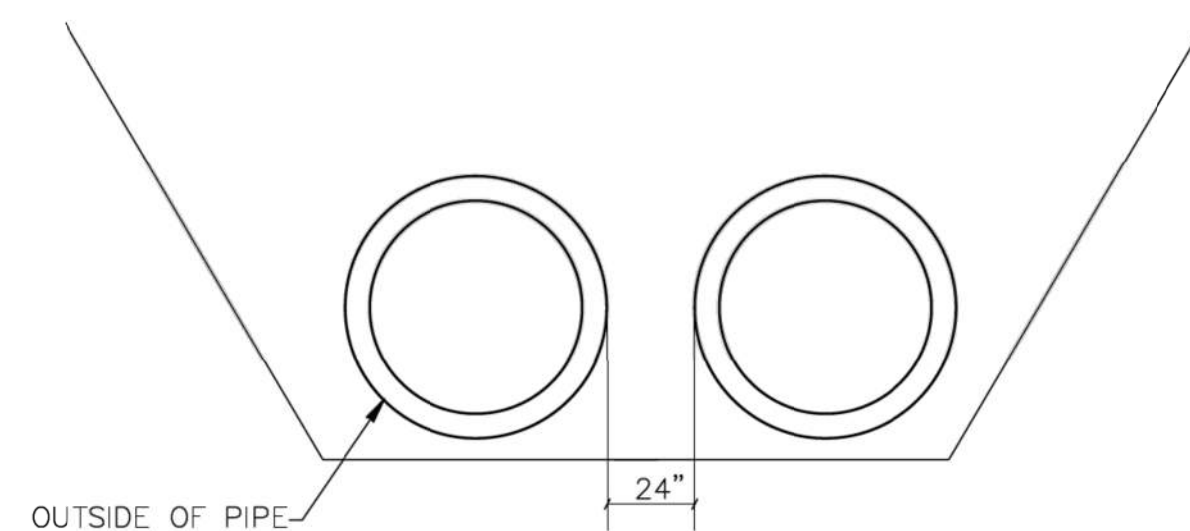
PROTECTIVE SLAB DETAIL
ZERO LOAD TRANSFER CONCRETE SLAB

SL-BB-04

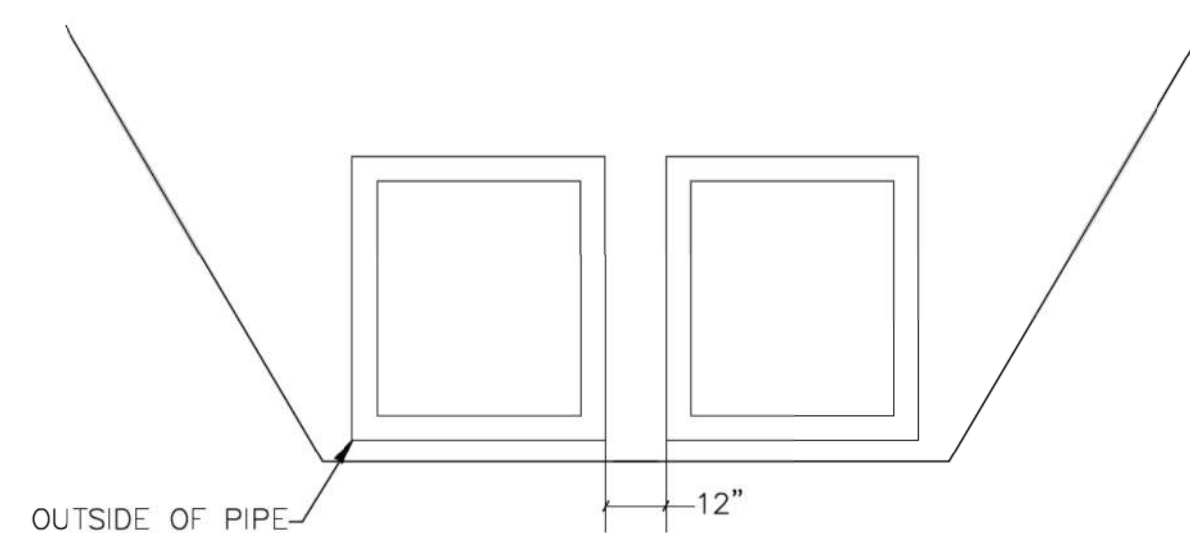
CONSTRUCTION NOTES

1. CONTRACTOR SHALL CONTACT SUGAR LAND ENGINEERING DEPARTMENT IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED.
2. LIMESTONE AND RECYCLED CONCRETE DIMENSIONS SHOWN ARE TYPICAL BUT MAY BE VARIED BY ORDER OF CITY ENGINEER.
3. LIMESTONE OR RECYCLED CONCRETE SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATION No. 248 FLEXIBLE BASE, TYPE A, GRADE 2 AGGREGATE.
4. NO BEDDING SHALL BE INSTALLED IN WET CONDITIONS. WHEN WELL POINTING OR IN WET SAND CONDITIONS, MAINTAIN GROUND WATER 1 (FT) BELOW BOTTOM OF TRENCH FOR A MINIMUM OF 24-HRS AFTER BEDDING AND BACKFILL IS IN PLACE.
5. ALL MATERIALS SHALL BE FROM THE APPROVED PRODUCTS LIST UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER.
6. SANITARY SEWER BEDDING FOR WET SAND CONDITIONS SHALL BE AS PER MODIFIED "A".
7. ALL SAND BEDDING FOR WATER LINES SHALL BE CLEAN, MECHANICALLY COMPACTED BANK SAND.
8. REFER TO: MAN-HOLE DETAILS, SANITARY, C.S.S., GENERAL, WATER CROSSING, WATER DISTRIBUTION DETAILS AND NOTES.
9. ALL BEDDING WILL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
10. A GEOTECHNICAL REPORT MAY BE REQUIRED TO ANALYZE THE BEARING CAPACITY OF EXISTING SOILS AND MAKE A DETERMINATION IF ADDITIONAL BEDDING AND BACKFILL IS APPROPRIATE.

SL-BB-05

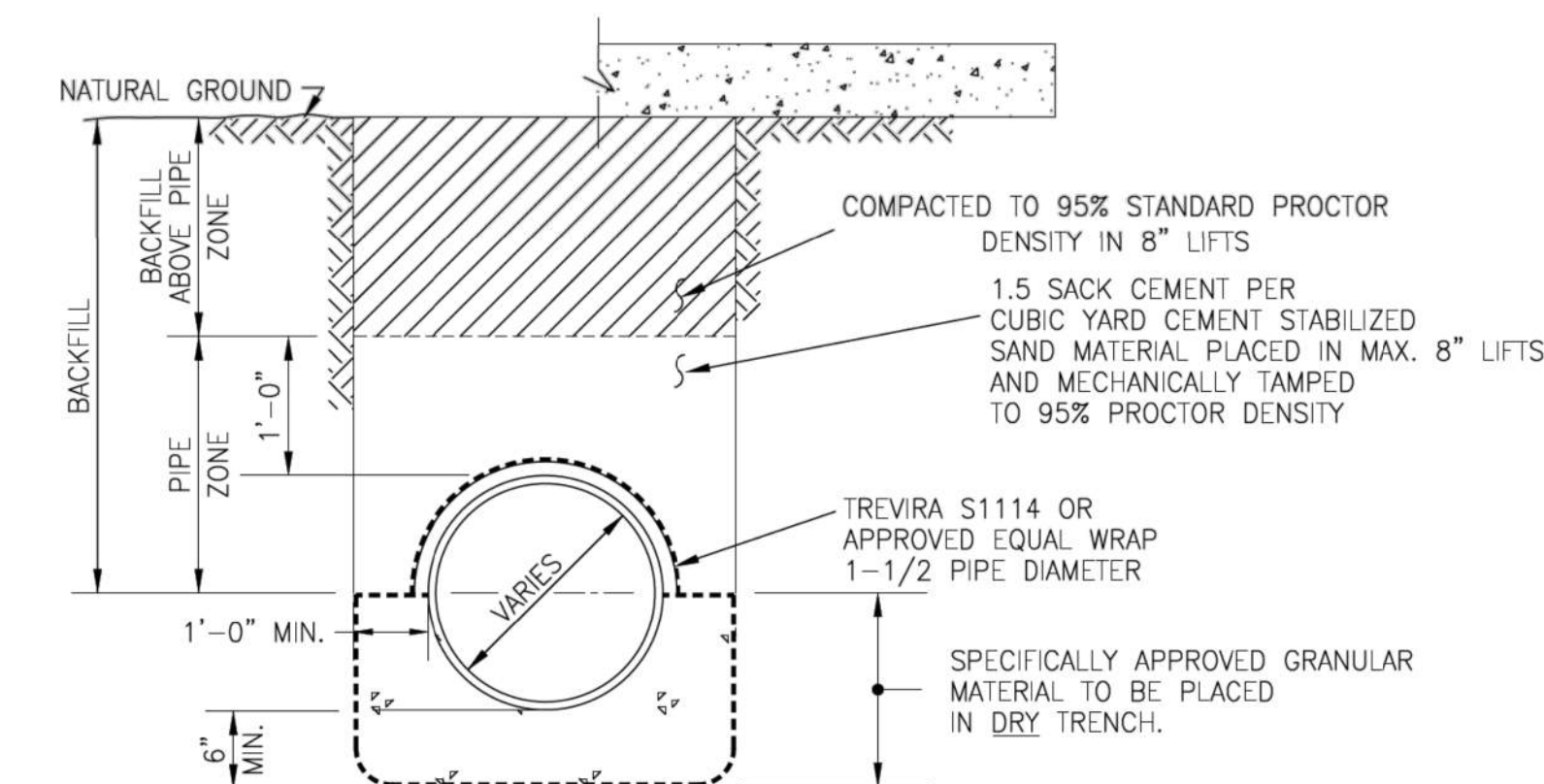


PIPE SEPARATION



RCB SEPARATION

SL-BB-16



MODIFIED "A"

N.T.S.

NOTE: C.S.S. SHALL BE INSTALLED A MIN. 1' ABOVE TOP OF PIPE.

SANITARY SEWER
BEDDING AND BACKFILL

SL-BB-03

REFER TO:

1. GENERAL NOTES
2. C.S.S. NOTES

BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.

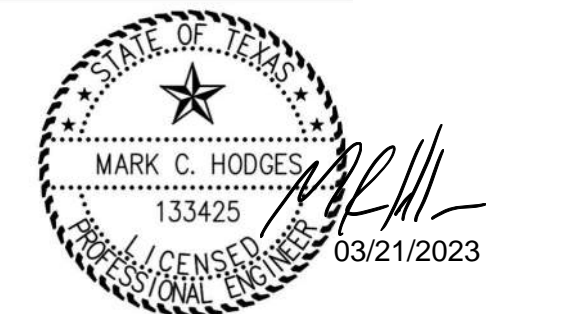
TEMPORARY BENCHMARK-A:
TEMPORARY BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)

TEMPORARY BENCHMARK-B:
TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)

FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400A0000 EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeng.com
TBPE No. F-17637



**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

**CITY OF ANGLETON
LIVE OAK RANCH**

**SANITARY DETAILS
(2 OF 2)**

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	1-21027000-01
DWGN.	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

SCALE:	HORIZ	NIA
	VERT	NIA

REVISION DATE: OCTOBER 2021

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City of Angleton Manhole Cover Detail



Product Number
41421042

Design Features

- Materials
Gray Iron (CL35B)
- Design Load
Heavy Duty
- Open Area
n/a
- Coating
Unpainted
- Designates Machined Surface

Certification

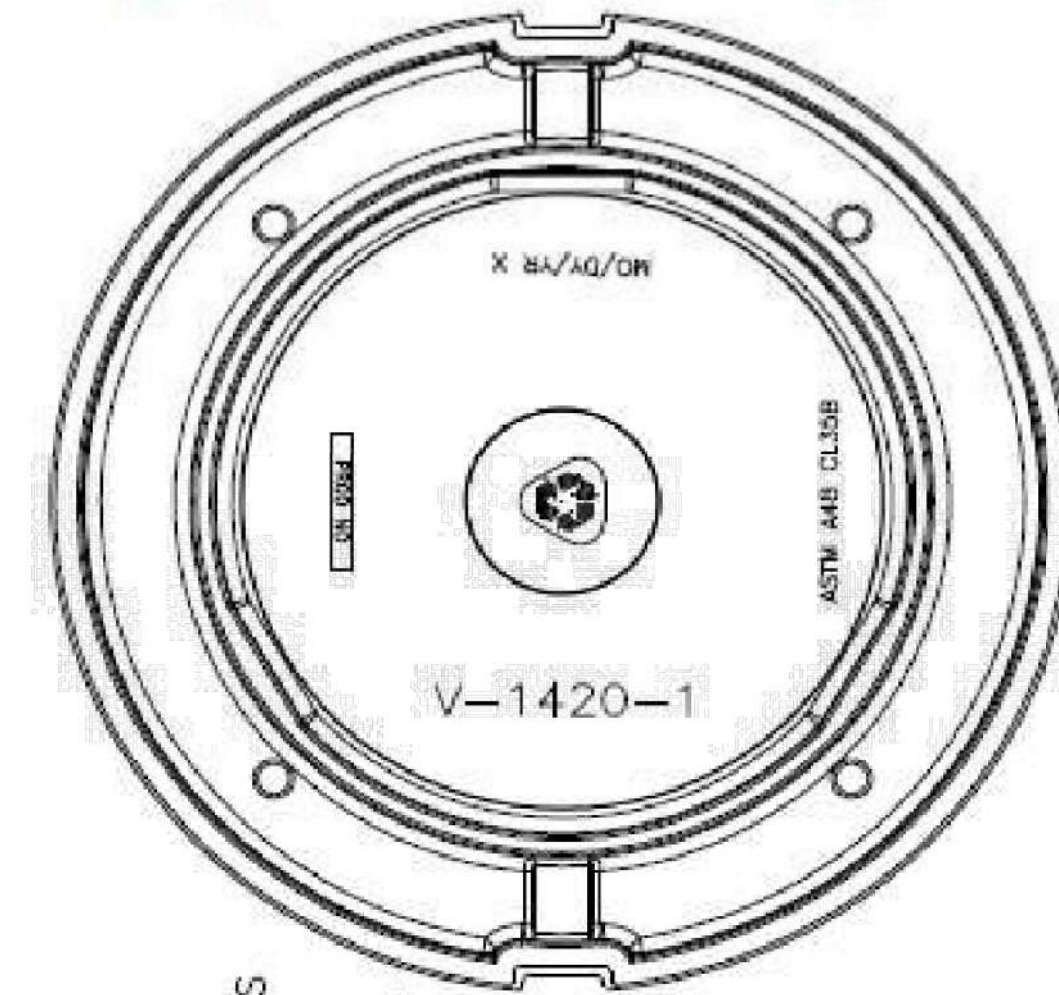
- ASTM A48
- Country of Origin: USA

Drawing Revisions
10/07/2004 Designer: SBB
11/03/2016 Revised By: MAH

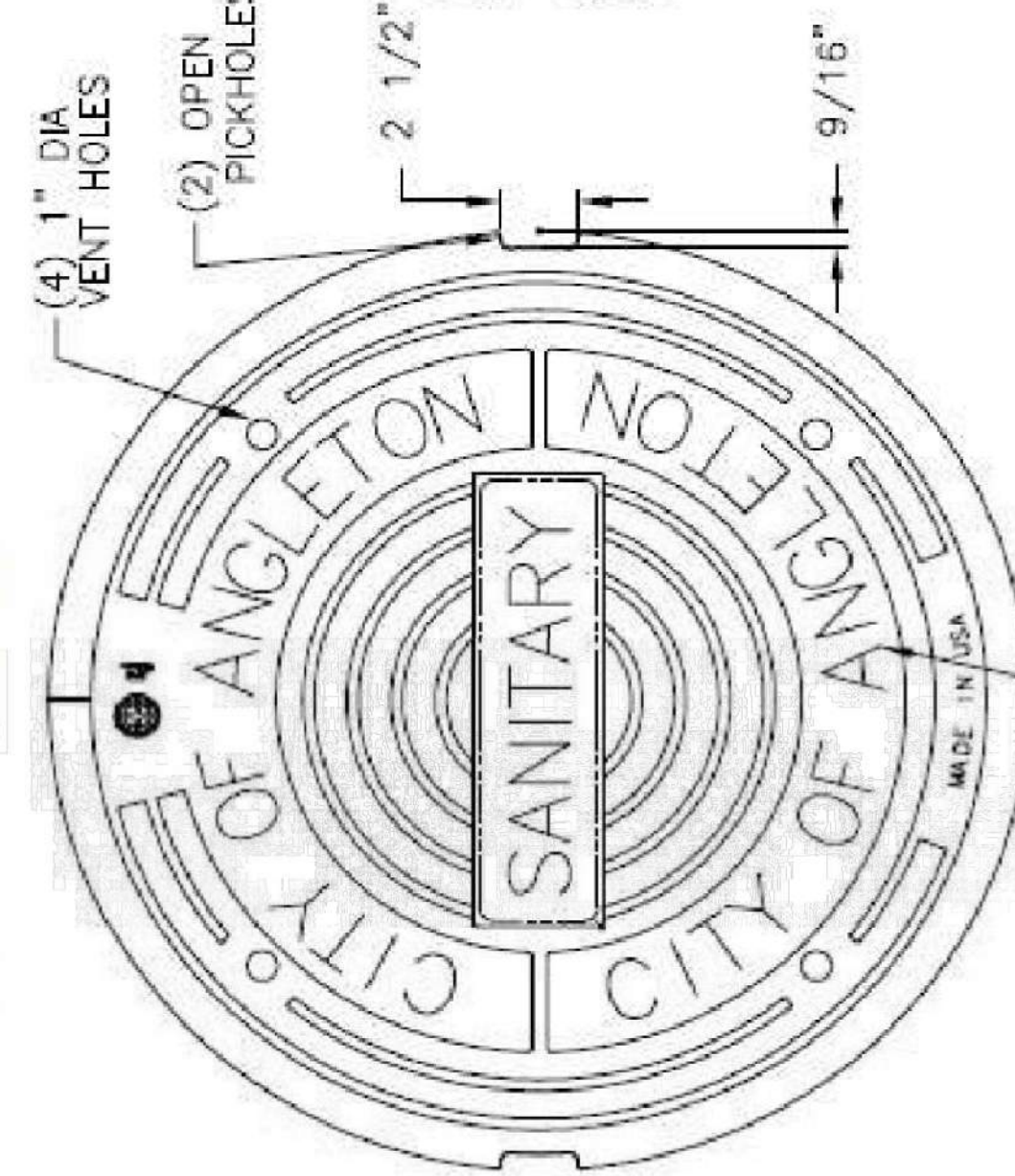
Disclaimer

Our drawings (specimens) are prepared for your reference, we reserve the right to modify specifications without notice.
This drawing is the property of E.J. GROUP, Inc. and contains confidential information. All rights reserved.
E.J. GROUP, Inc. and its subsidiaries are not responsible for any errors or omissions in this drawing. All rights reserved.

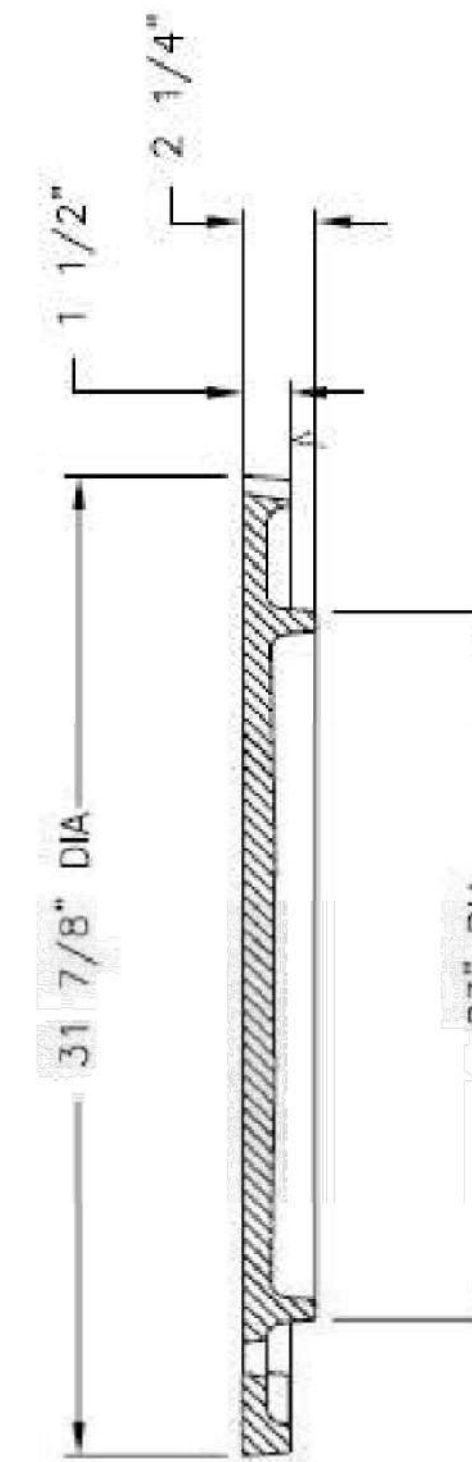
Contact
800.626.4653
www.ejgroup.com



BOTTOM VIEW



V1420-1 Cover

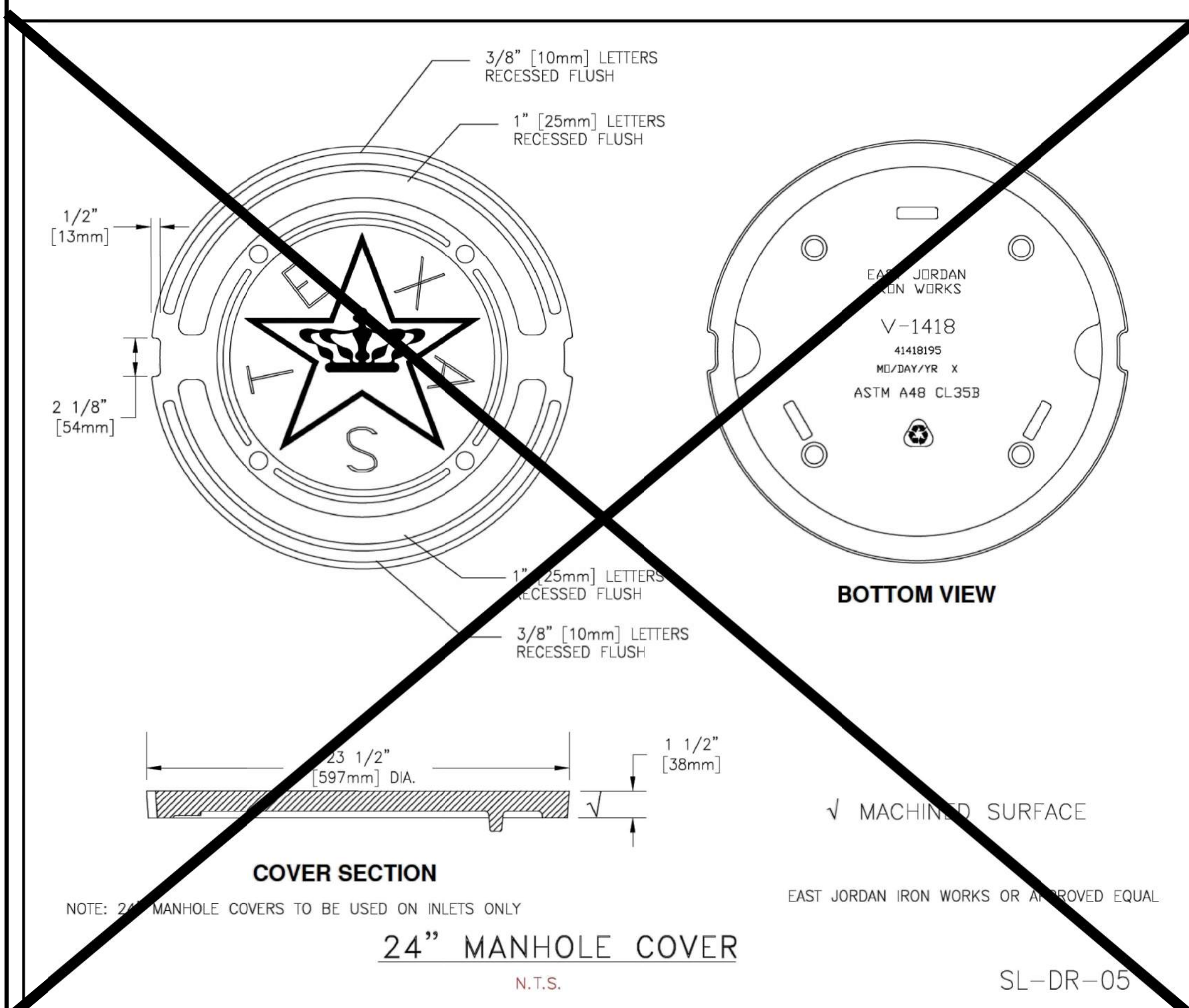


COVER SECTION

NOTES

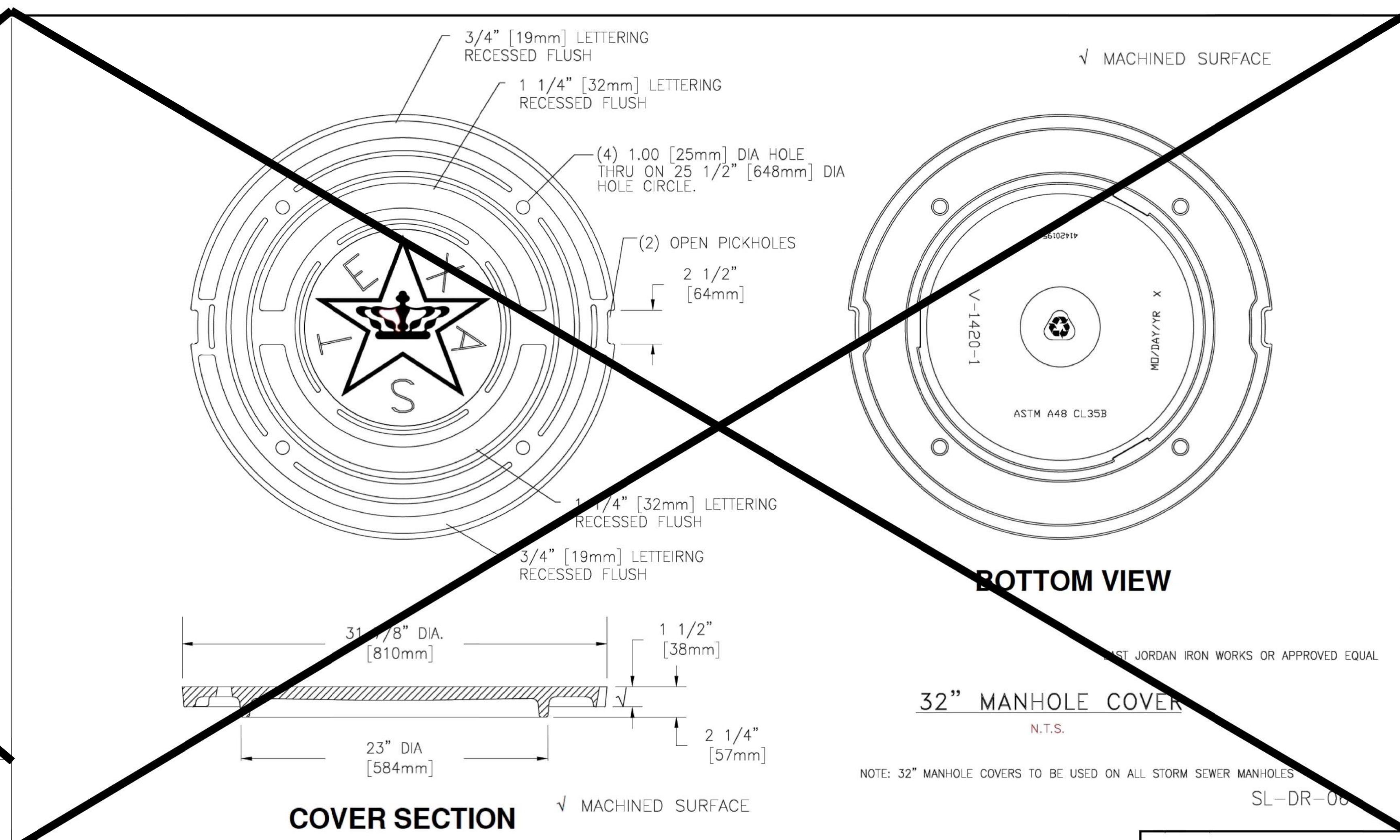
1. MATERIAL SPECIFICATION SHALL BE ASTM A-48 CLASS 35B.
2. COVER TO BE SOLID, WITHOUT HOLES AND WITH NON-PENETRATION RIM ACCESS RECESSES ONLY.
3. HORIZONTAL BEARING SURFACES TO BE MACHINED AND SEALED AT INSTALLATION WITH WATERPROOF GREASE COATING.
4. LOAD RATING TO BE HEAVY-DUTY.
5. MANHOLE FRAMES AND COVERS SET IN FARM TO MARKET ROADS OR HIGHWAYS SHALL FOLLOW TXDOT SPECIFICATIONS. (UNLESS OTHERWISE NOTED BY ANGLETON)

BENCHMARK(S) / FLOODPLAIN		
<p>BENCHMARK: ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.</p> <p>TEMPORARY BENCHMARK -A: TEMPORARY BENCHMARK "A" IS A BOX CUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)</p> <p>TEMPORARY BENCHMARK -B: TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)</p> <p>FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C040K EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".</p>		
APPR.	REVISION	DATE
<p>ODYSSEY ENGINEERING GROUP 2500 Tanglewilde Street, Suite 300 Houston, Texas 77063 t: 281.306.0240 www.odysseyeg.com TBPE No. F-17637</p>		
<p>CITY OF ANGLETON BRAZORIA COUNTY, TEXAS</p> <p>121 S Velasco, Angleton, Texas 77515</p>		
<p>CITY OF ANGLETON LIVE OAK RANCH</p>		
<p>ANGLETON MANHOLE COVER DETAIL</p>		
SURV. MS. DATE 5/22	JOB NO.	21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO.	I-21027000-01
CHKD. NPM. DATE 3/23		
APPR. MCH. DATE 3/23		
SCALE:		
HORIZ. N/A		
VERT. N/A		
	SHEET	37 OF 49 SHEETS



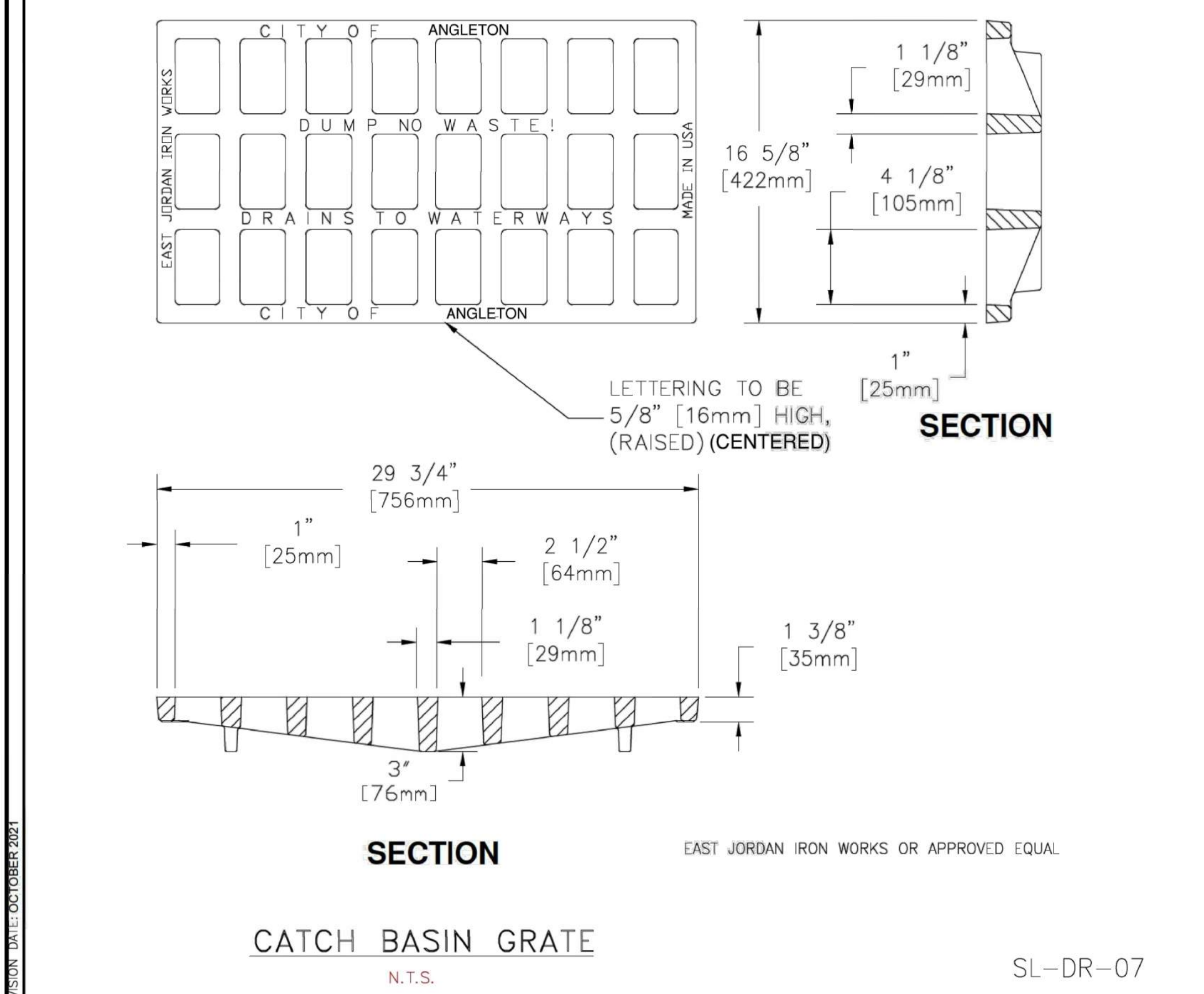
24" MANHOLE COVER
N.T.S.

SL-DR-05



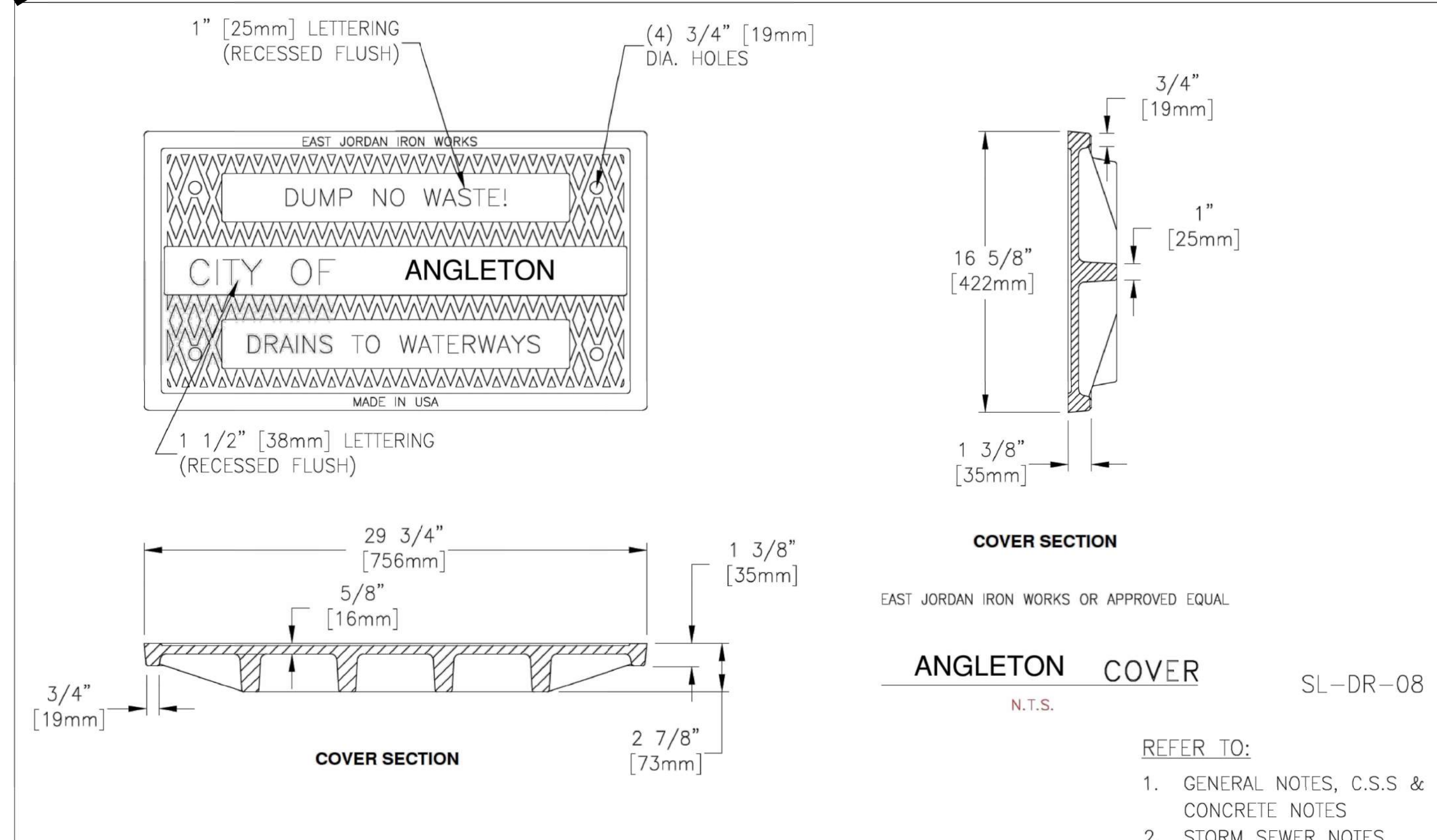
32" MANHOLE COVER
N.T.S.

SL-DR-06



CATCH BASIN GRATE
N.T.S.

SL-DR-07



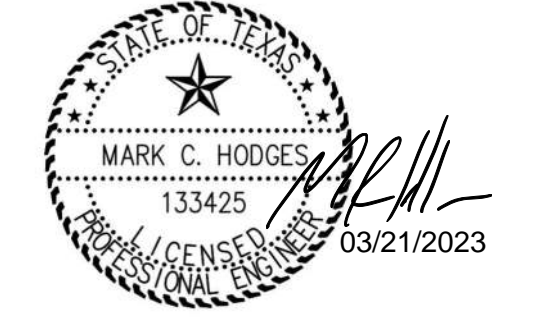
ANGLETON COVER
N.T.S.

SL-DR-08

- REFER TO:
- GENERAL NOTES, C.S.S & CONCRETE NOTES
 - STORM SEWER NOTES

BENCHMARK(S) / FLOODPLAIN		
BENCHMARK: ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.		
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TEMPORARY BENCHMARK-B: TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.30 FEET, (NAVD83, 2001 ADJUSTMENT)		
FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400 EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".		
APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

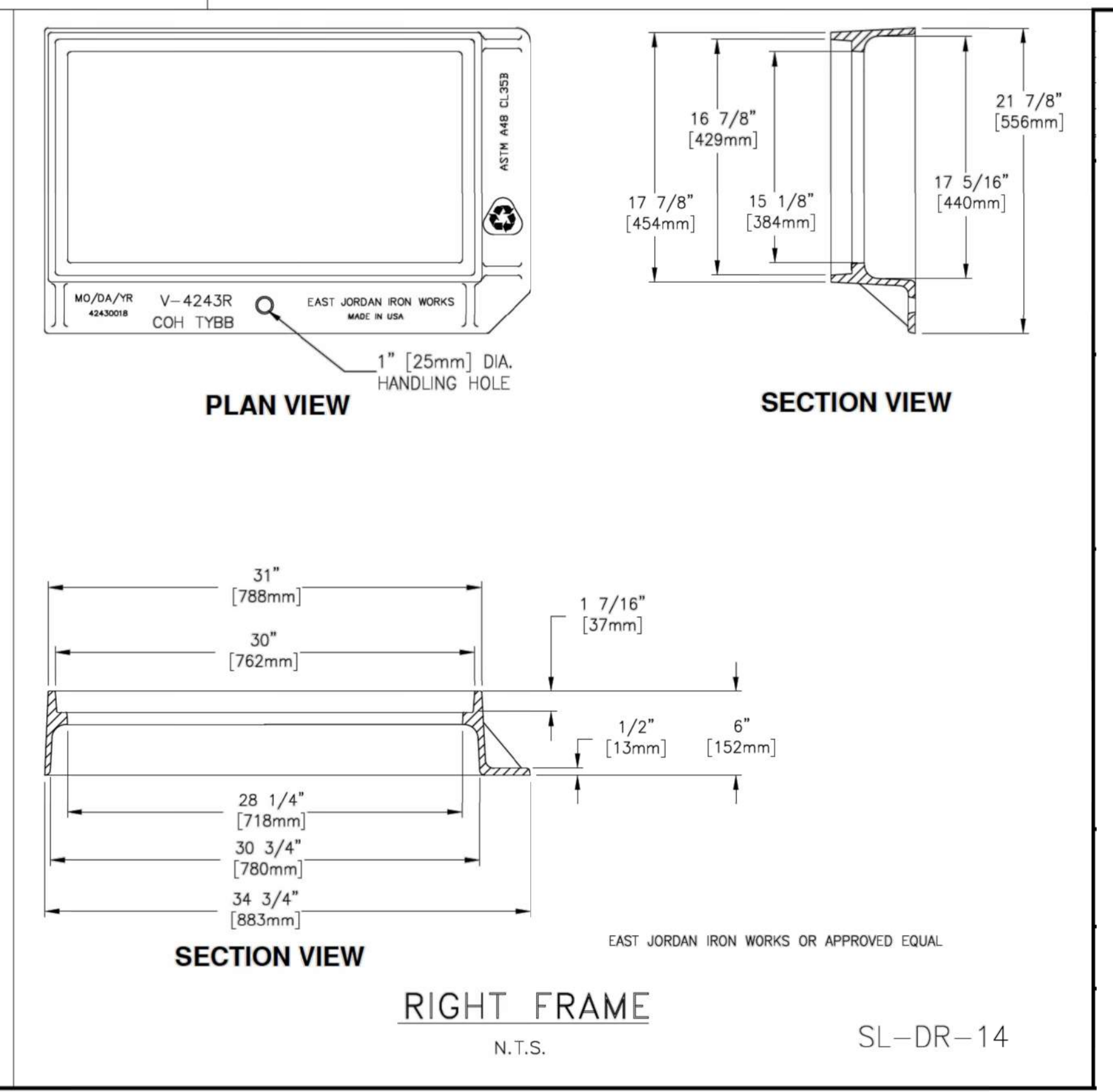
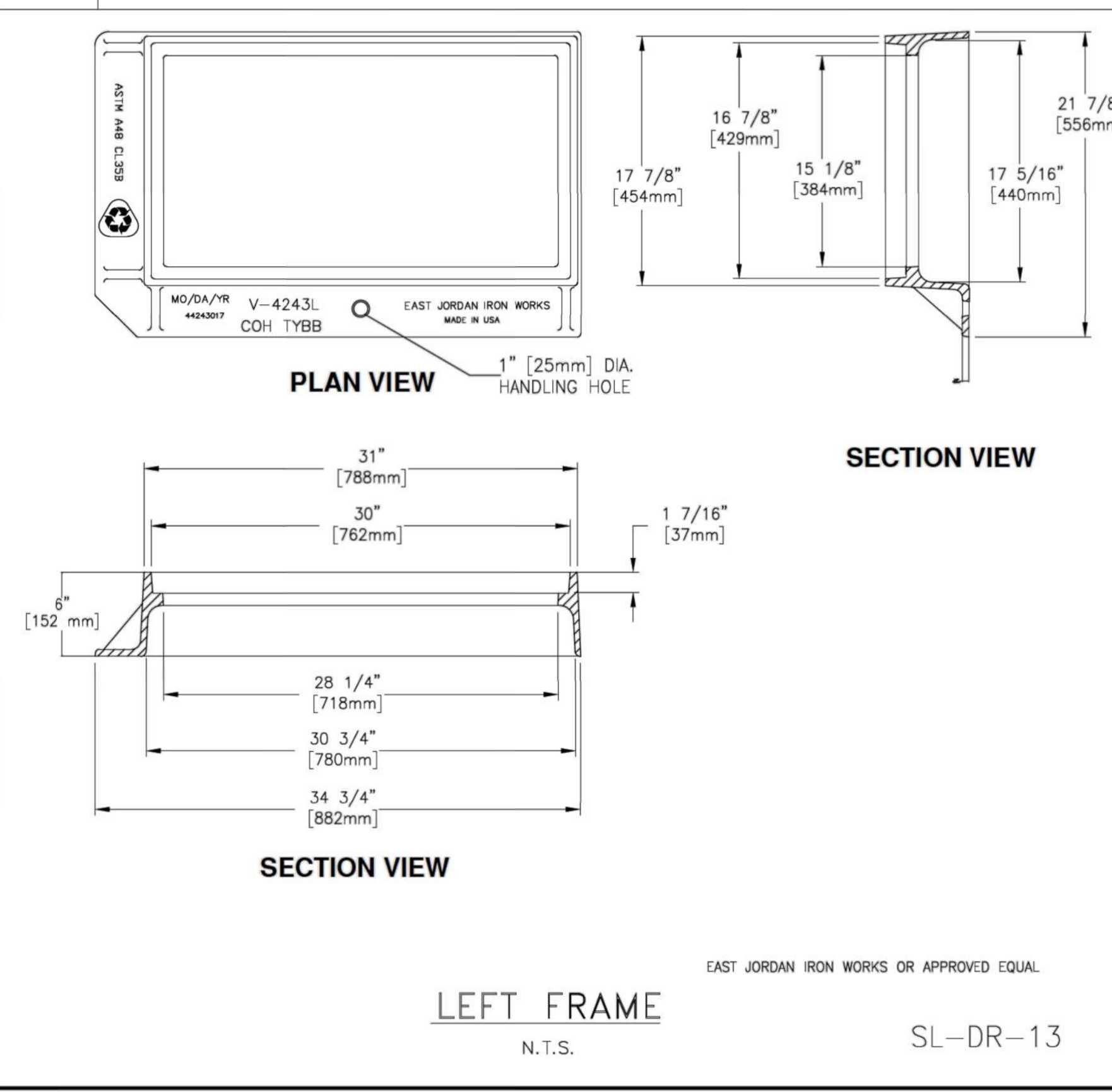
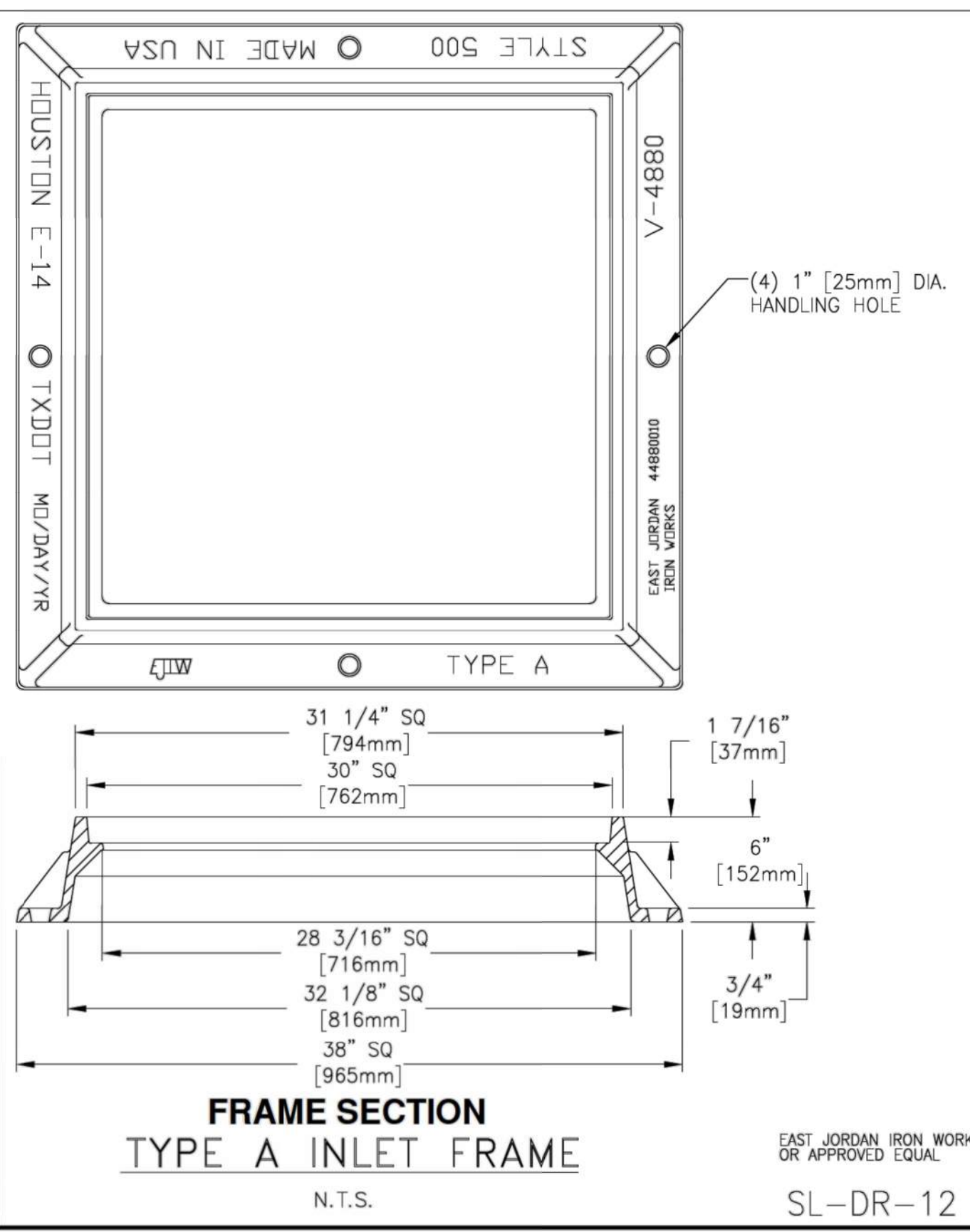
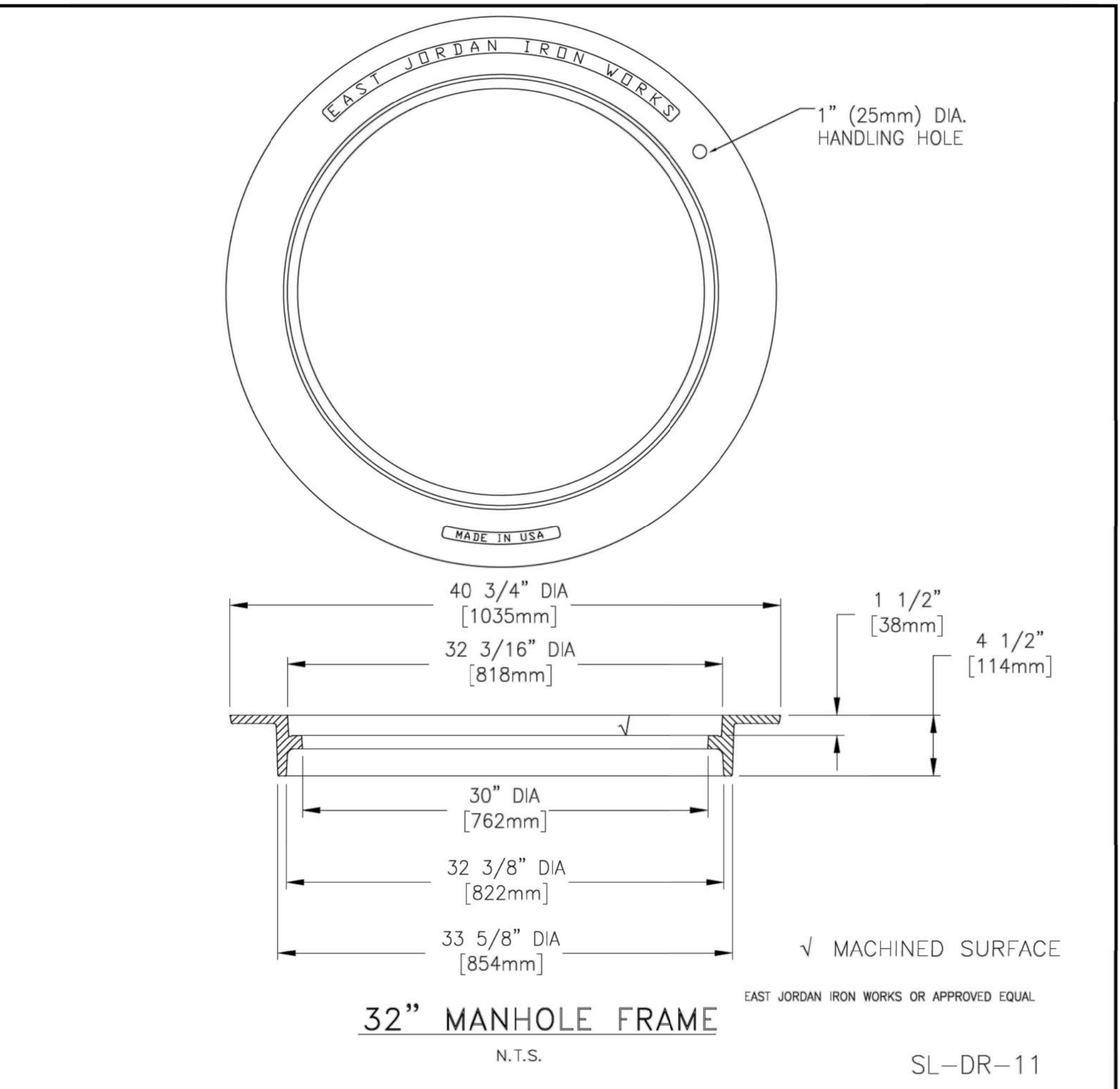
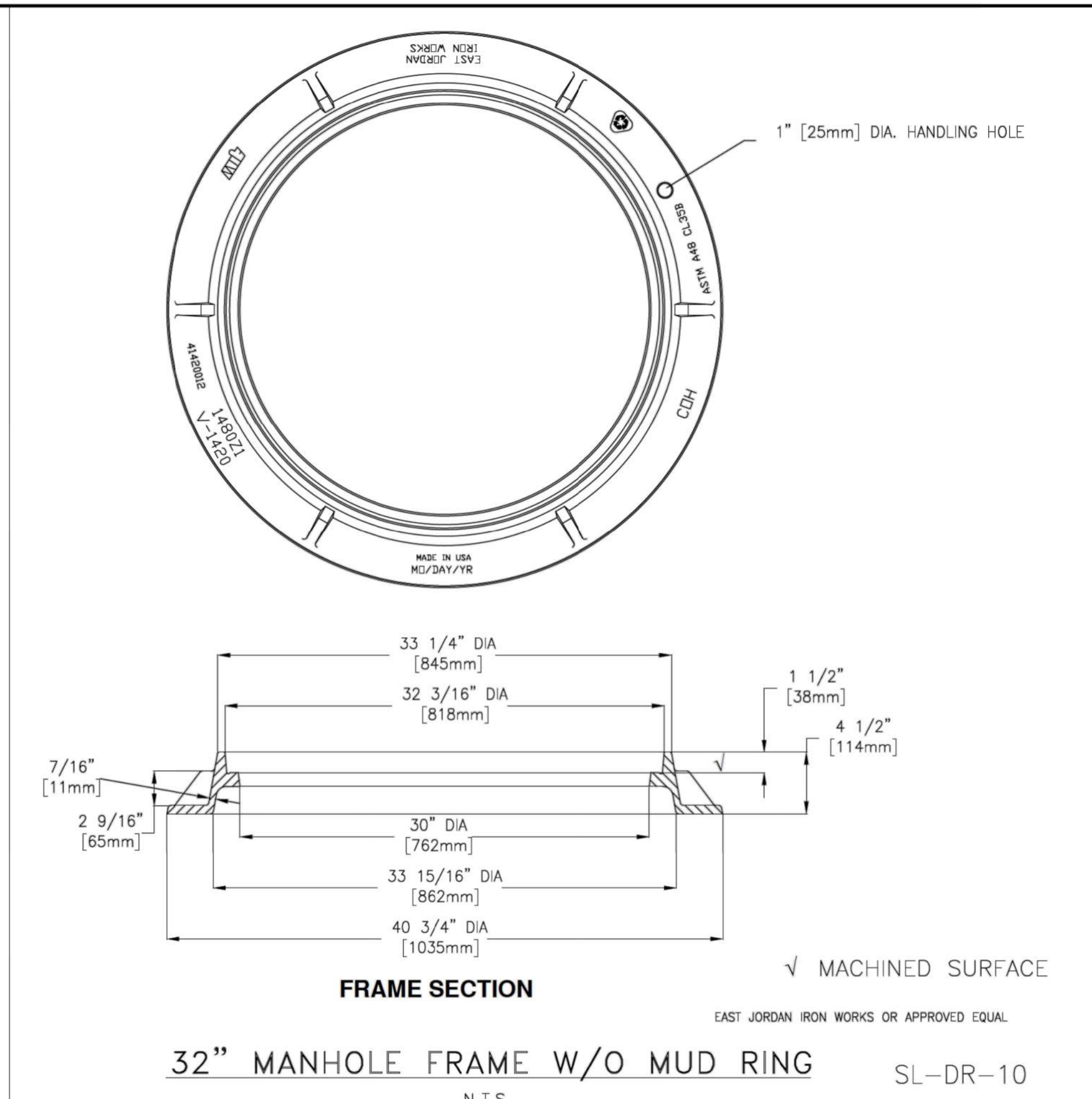
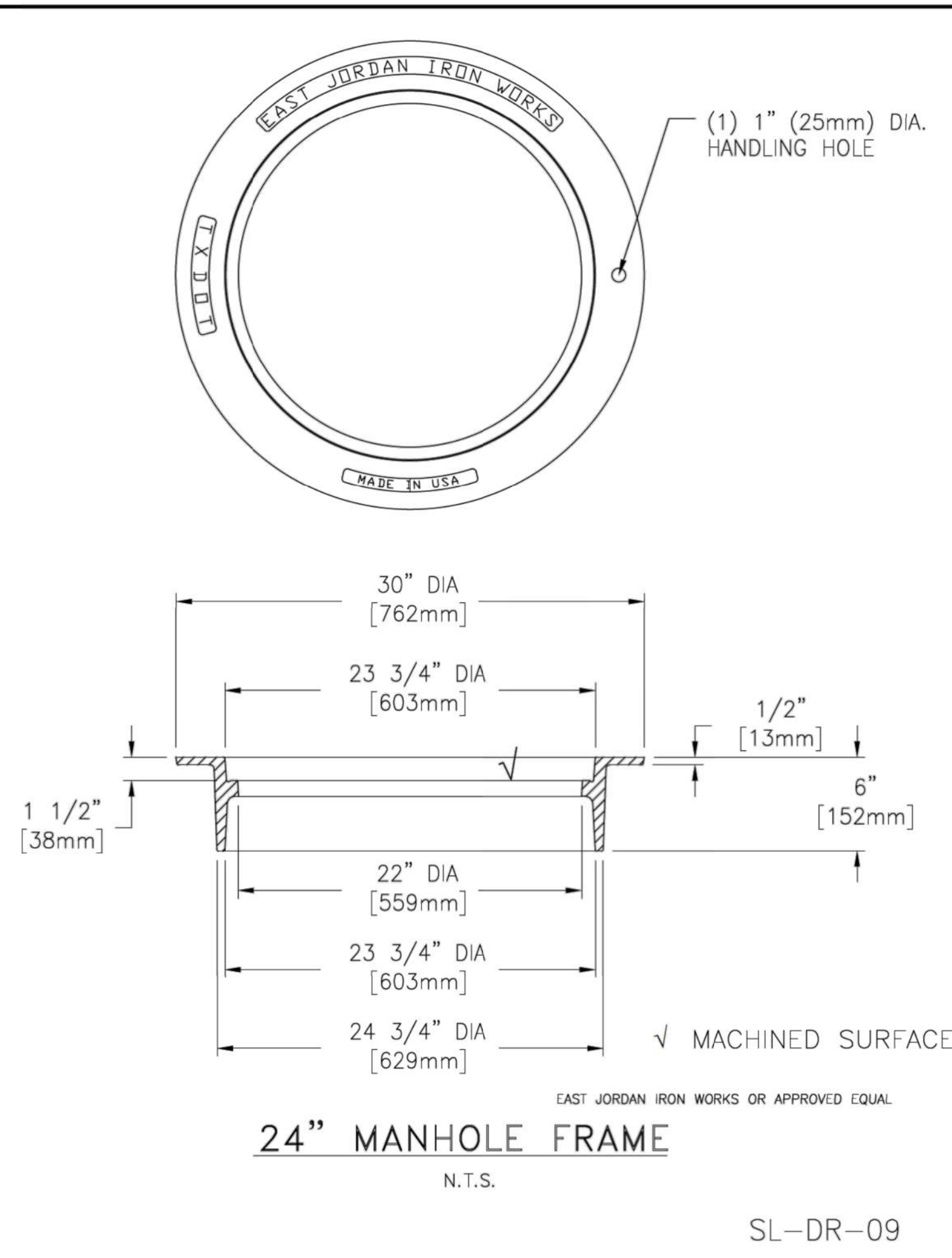
CITY OF ANGLETON
LIVE OAK RANCH

STORM DETAILS
(2 OF 10)

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
CHCK. MCH. DATE 3/23	
APPR. MCH. DATE 3/23	
SCALE: HORIZ. N/A	SHEET 39 OF 49 SHEETS
VERT. N/A	

REVISION DATE: OCTOBER 2021

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BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
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APPR.	REVISION	DATE

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2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637

STATE OF TEXAS
MARK C. HODGES
133425
03/21/2023

**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**
121 S Velasco,
Angleton, Texas 77515

**CITY OF ANGLETON
LIVE OAK RANCH**

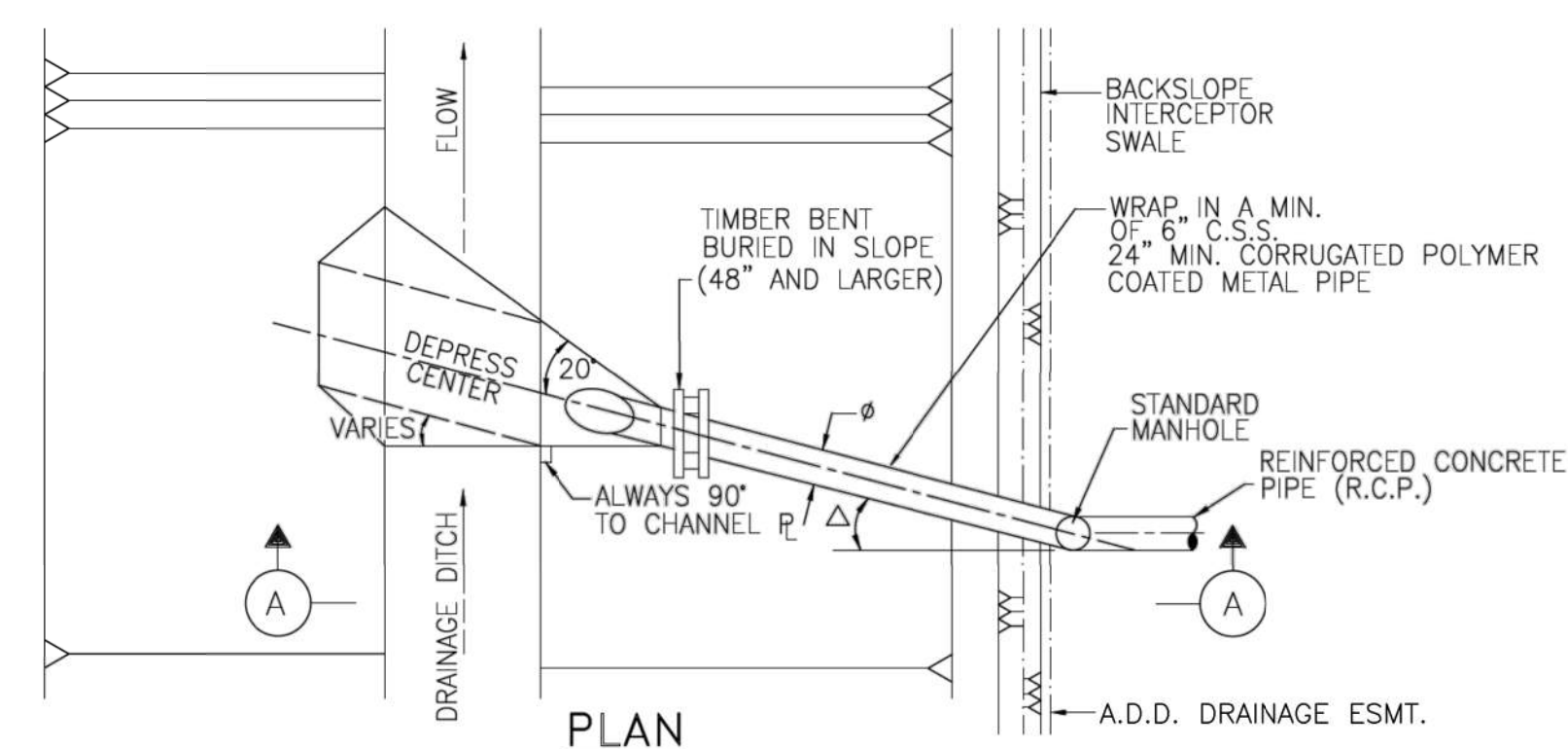
**STORM DETAILS
(3 OF 10)**

SURV. MS DATE 5/22	JOB NO. 21-027-00
DSGN. NPM DATE 6/22	IMAGE NO. I-21027000-01
DWN. NPM DATE 6/22	
CHKD. MCH DATE 3/23	
APPR. MCH DATE 3/23	

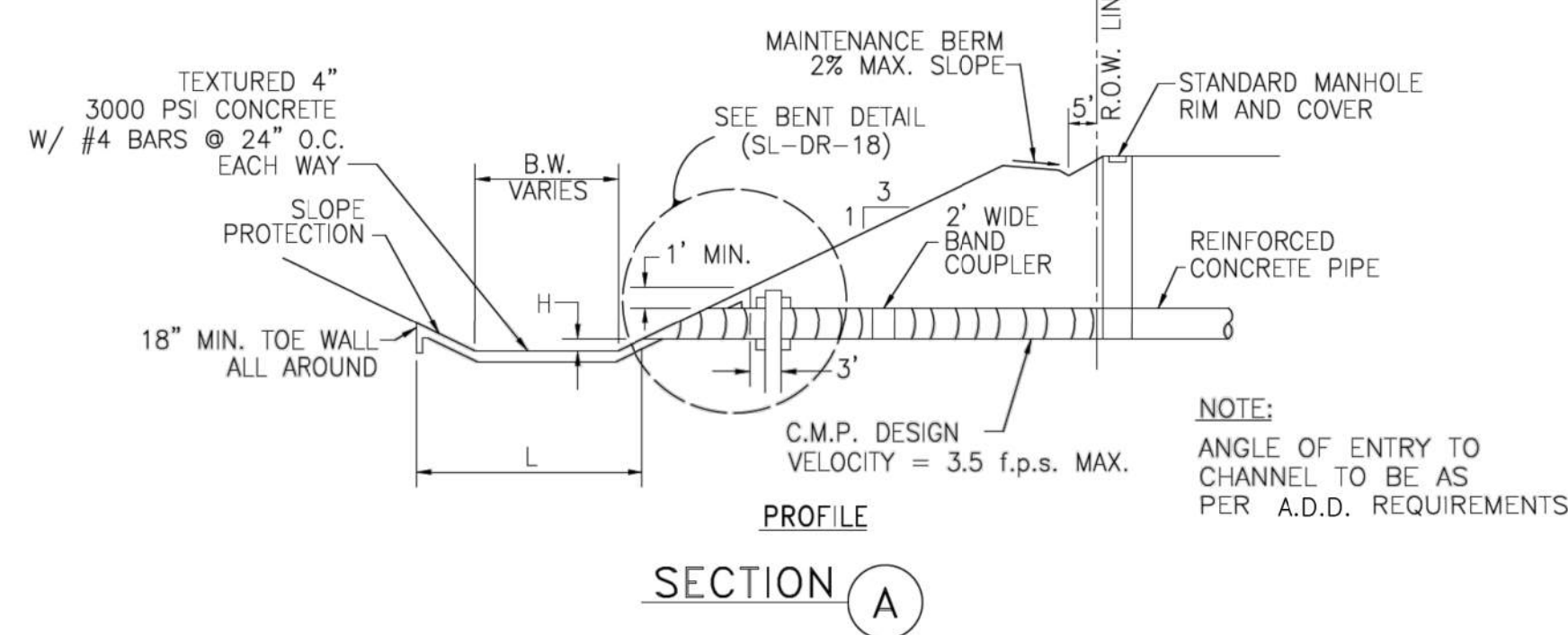
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SHEET 40 OF 49 SHEETS

REVISION DATE: OCTOBER 2021

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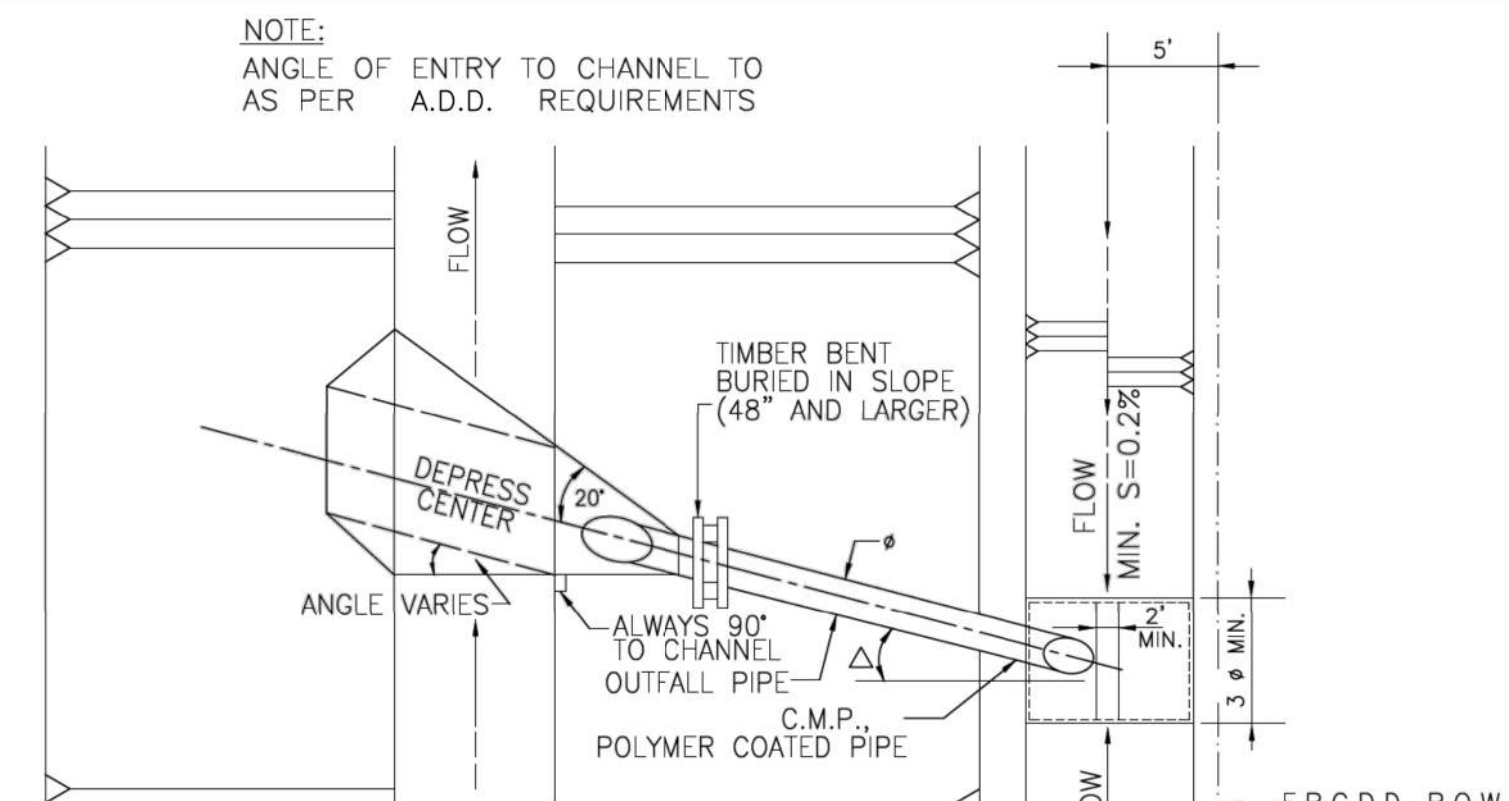
PLAN



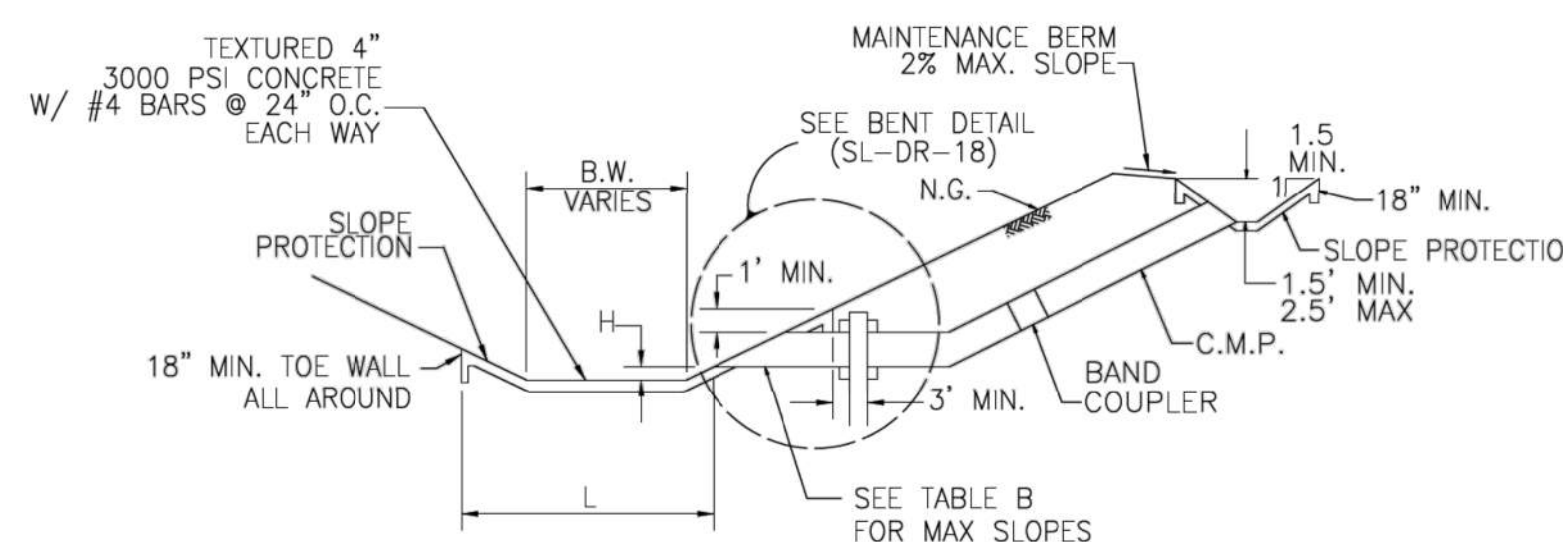
SECTION A

STORM SEWER OUTFALL
N.T.S.

SL-DR-15



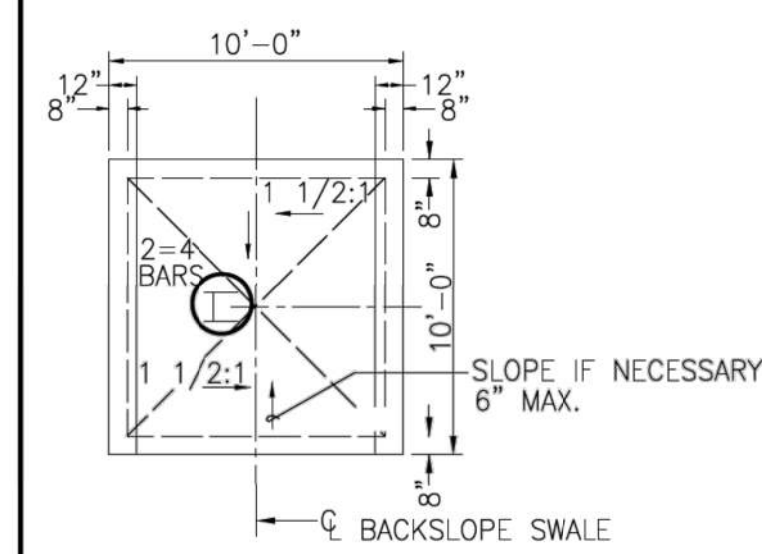
PLAN



PROFILE

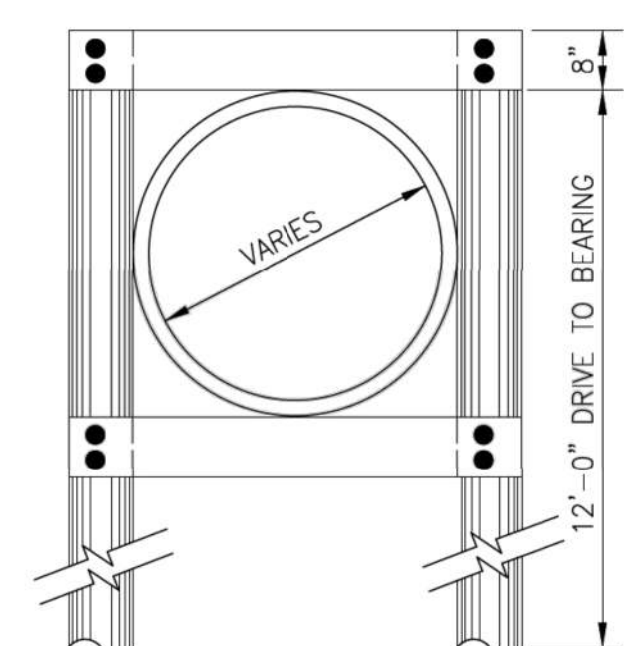
BACKSLOPE INLET & OUTFALL
N.T.S.

SL-DR-16



INLET DETAIL

SL-DR-20



END VIEW OF OUTFALL
SL-DR-21

TABLE A

SIZE	PIPE GAUGE	BAND COUPLER GAUGE	SIZE	PIPE GAUGE	BAND COUPLER GAUGE
24" X 1/2" CORRUGATION	12	12	3'X1' & 5'X1' CORRUGATION		
30"	12	12			
36"	12	12			
42"	12	12			
48"	12	12	48"	12	12
54"	12	12	54"	12	12
60"	12	12	60"	12	12
66"	10	12	66"	12	12
72"	10	12	72"	12	12
78"	8	10	78"	12	12
84"	8	10	84"	12	12

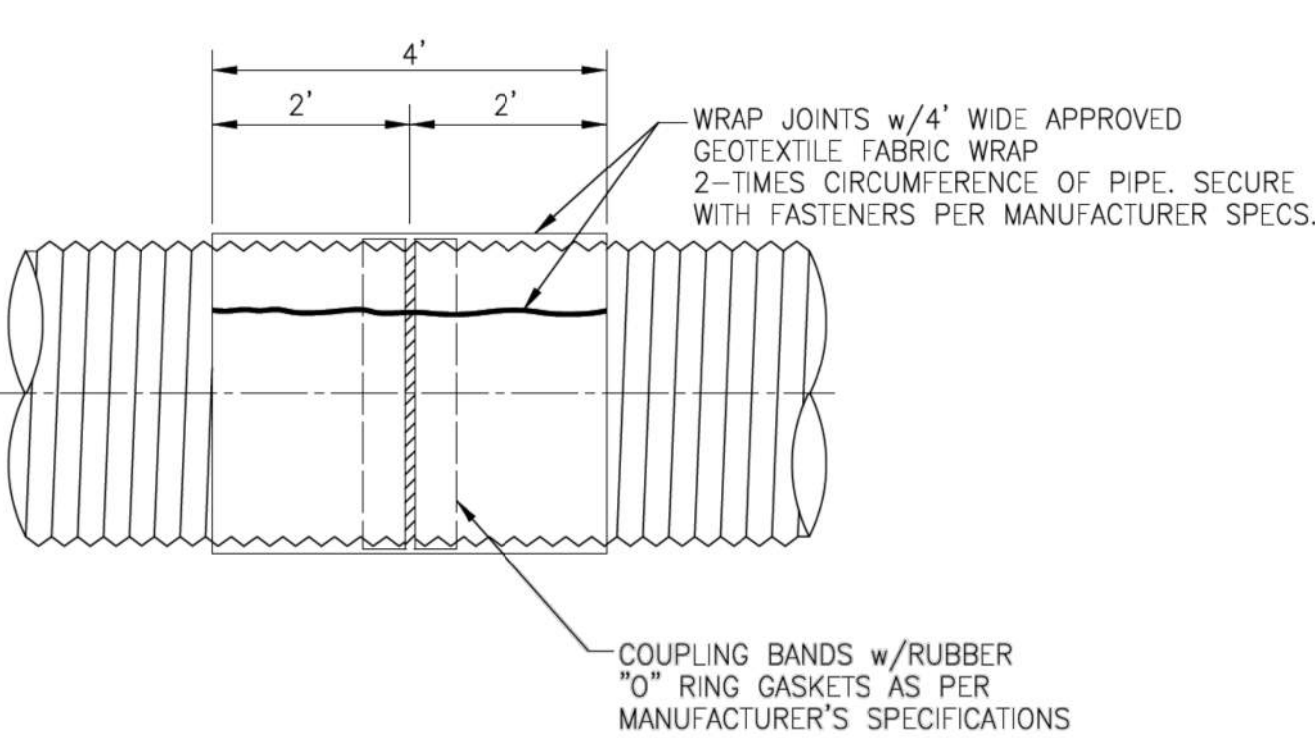
TABLE B

PIPE DIA.	SLOPE	VELOCITY
24"	0.6%	3.25 f.p.s
36"	0.3%	3.00 f.p.s
42"	0.2%	2.75 f.p.s
48"	0.2%	3.00 f.p.s
54"	0.2%	3.25 f.p.s

SL-DR-19

CONSTRUCTION NOTES:

- L : B.W. ≤ 7'-6" → LENGTH WILL EXTEND ONE-HALF PIPE Ø ABOVE IT ON OPPOSITE BANK (MIN. 36") OR A MINIMUM OF 6-PIPE Ø TOWARDS OPPOSITE BANK OF CHANNEL, WHICH EVER IS THE LESSER.
- Δ : PROP. 24" TO 42" Δ = 15"
- PROP. 48" AND LARGER Δ = 30"
- H : FOR PIPE SIZES 24" TO 42" H=3' MAX. AND 1' MIN.
- FOR PIPE SIZES 48" AND LARGER H=1' MAX. AND MIN.

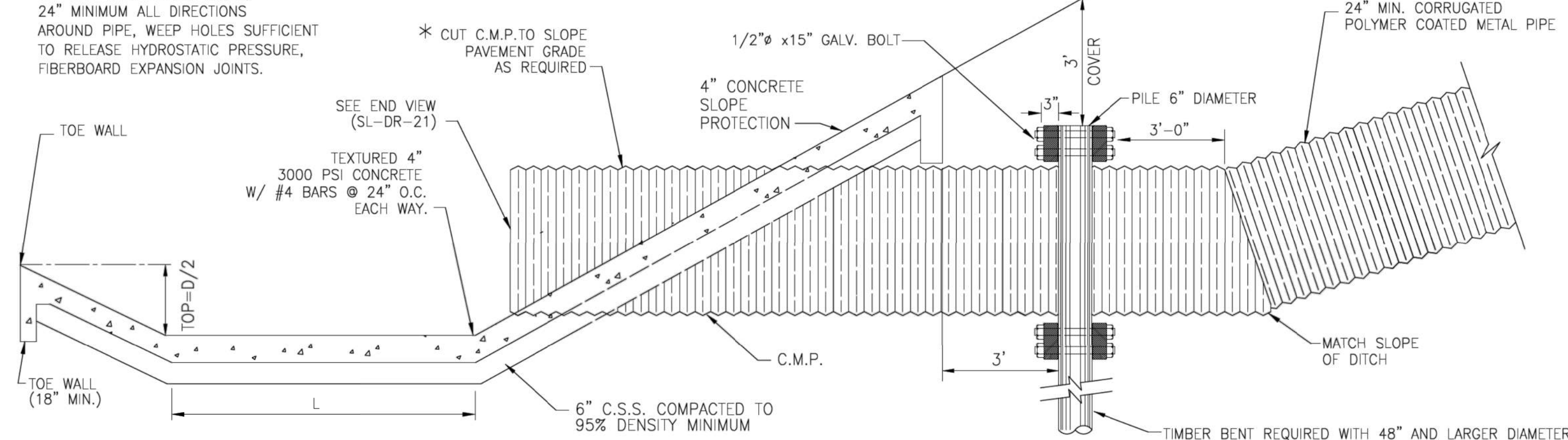


- NOTES:
- ANY PIPE DEFLECTED MORE THAN 2% SHALL BE REJECTED AND REPLACED AT CONTRACTOR'S EXPENSE.
 - INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS INCLUDING ITEMS AS DETAILED IN INSTALLATION MANUAL FOR CORRUGATED STEEL DRAINAGE STRUCTURES.

STORM SEWER JOINT WRAP DETAIL
N.T.S.

SL-DR-17

- CONSTRUCTION NOTES:
- 4" CONCRETE THICKNESS, 18" TOE WALL ON ALL SIDES, 24" MINIMUM ALL DIRECTIONS AROUND PIPE, WEEP HOLES SUFFICIENT TO RELEASE HYDROSTATIC PRESSURE, FIBERBOARD EXPANSION JOINTS.



- NOTES:
- OUTFALL PIPE SHALL BE POLYMER-COATED, CORRUGATED, METAL PIPE. ALUMINUM PIPE OR ALUMINIZED COAT IS NOT ALLOWED.
 - STONE RIP RAP IS NOT ALLOWED.
 - SEE GENERAL, C.S.S. AND CONCRETE NOTES.
 - SEE END VIEW DETAIL (THIS SHEET).
 - ALL CONNECTING BANDS MUST HAVE AN APPROVED RUBBER GASKET.

TIMBER BENT DETAIL FOR CORRUGATED METAL PIPE OUTFALL
N.T.S.

SL-DR-18

BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
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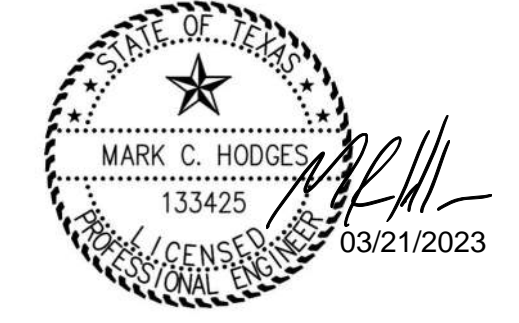
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TEMPORARY BENCHMARK-B:
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FLOODPLAIN:
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APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

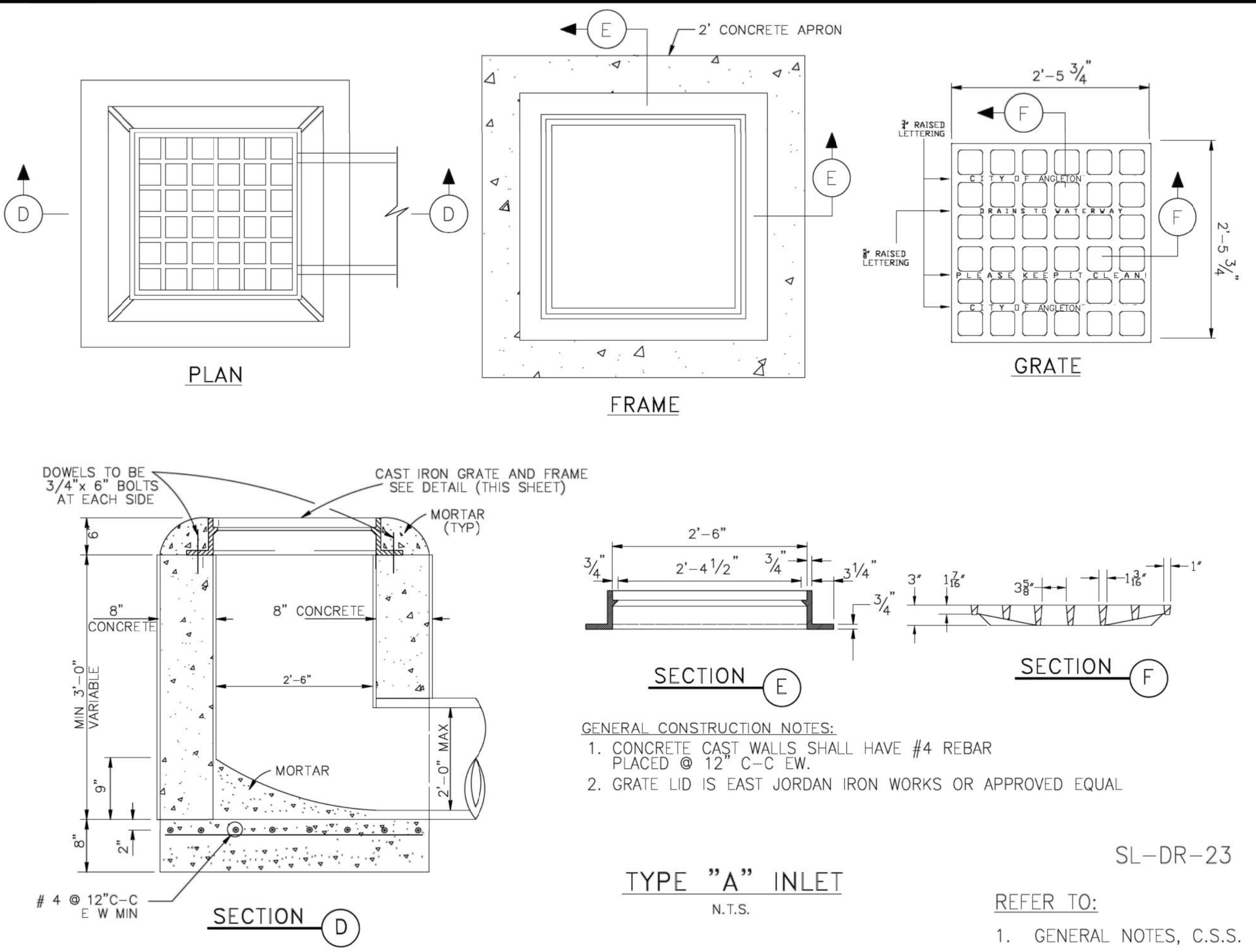
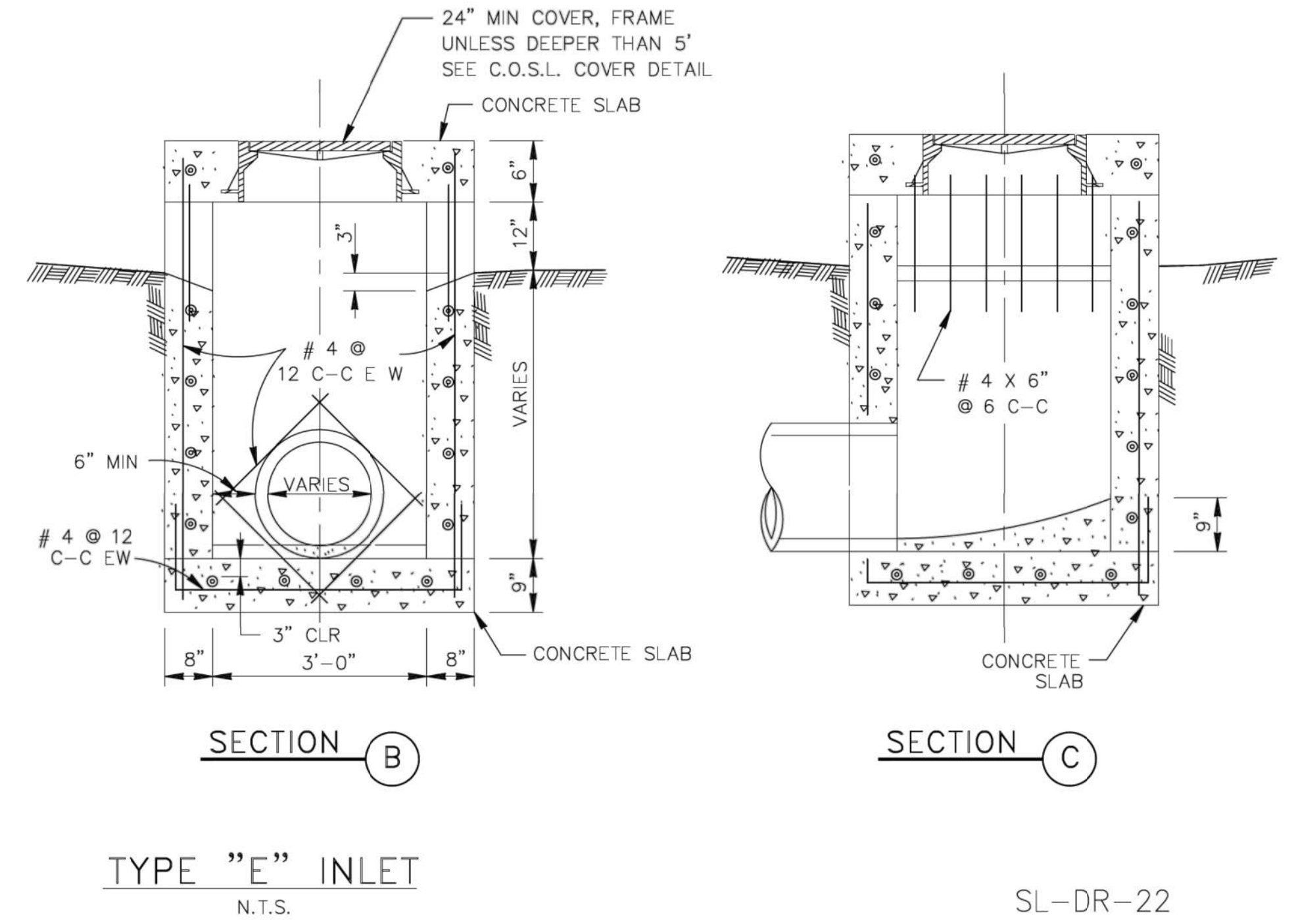
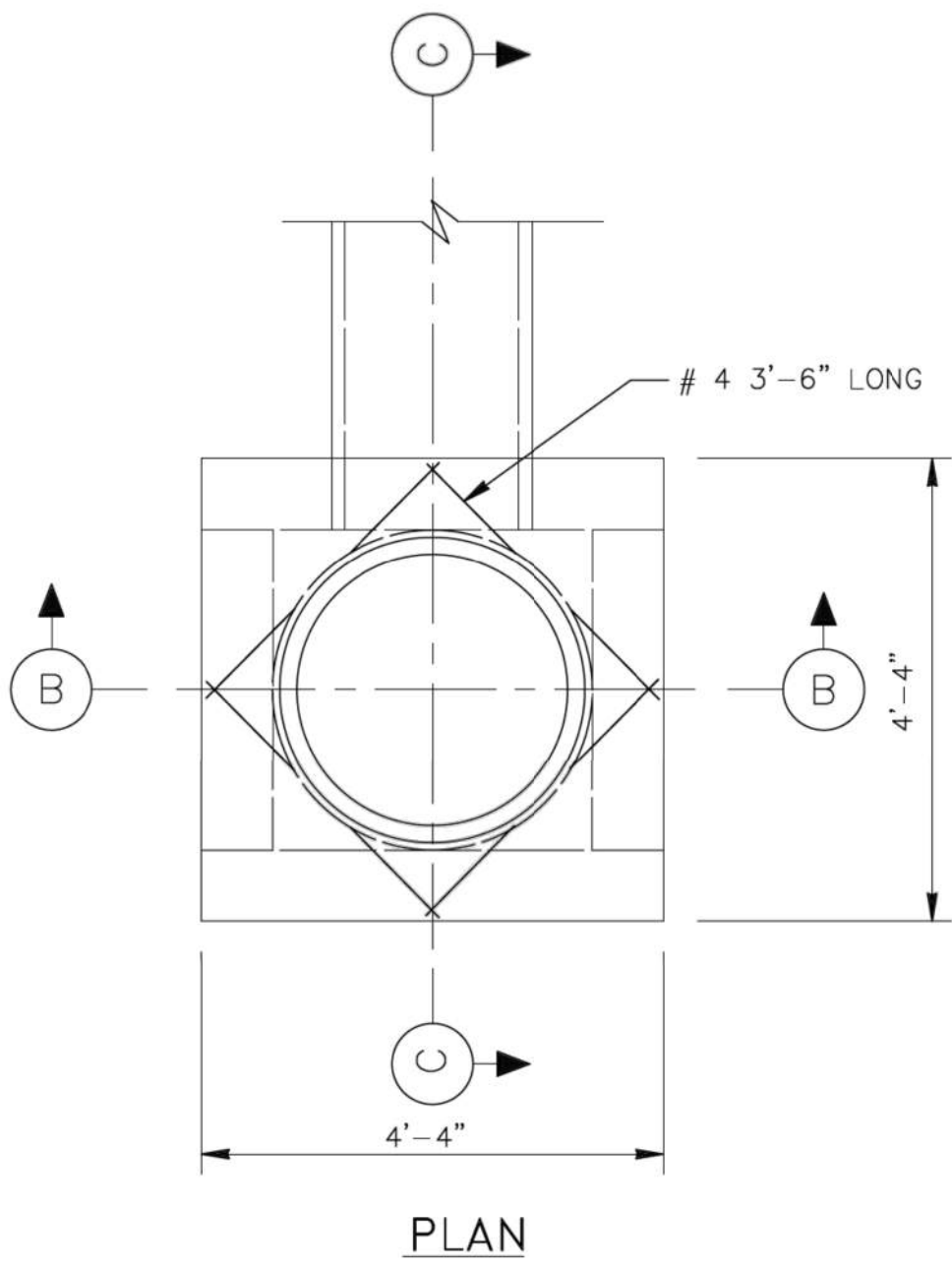
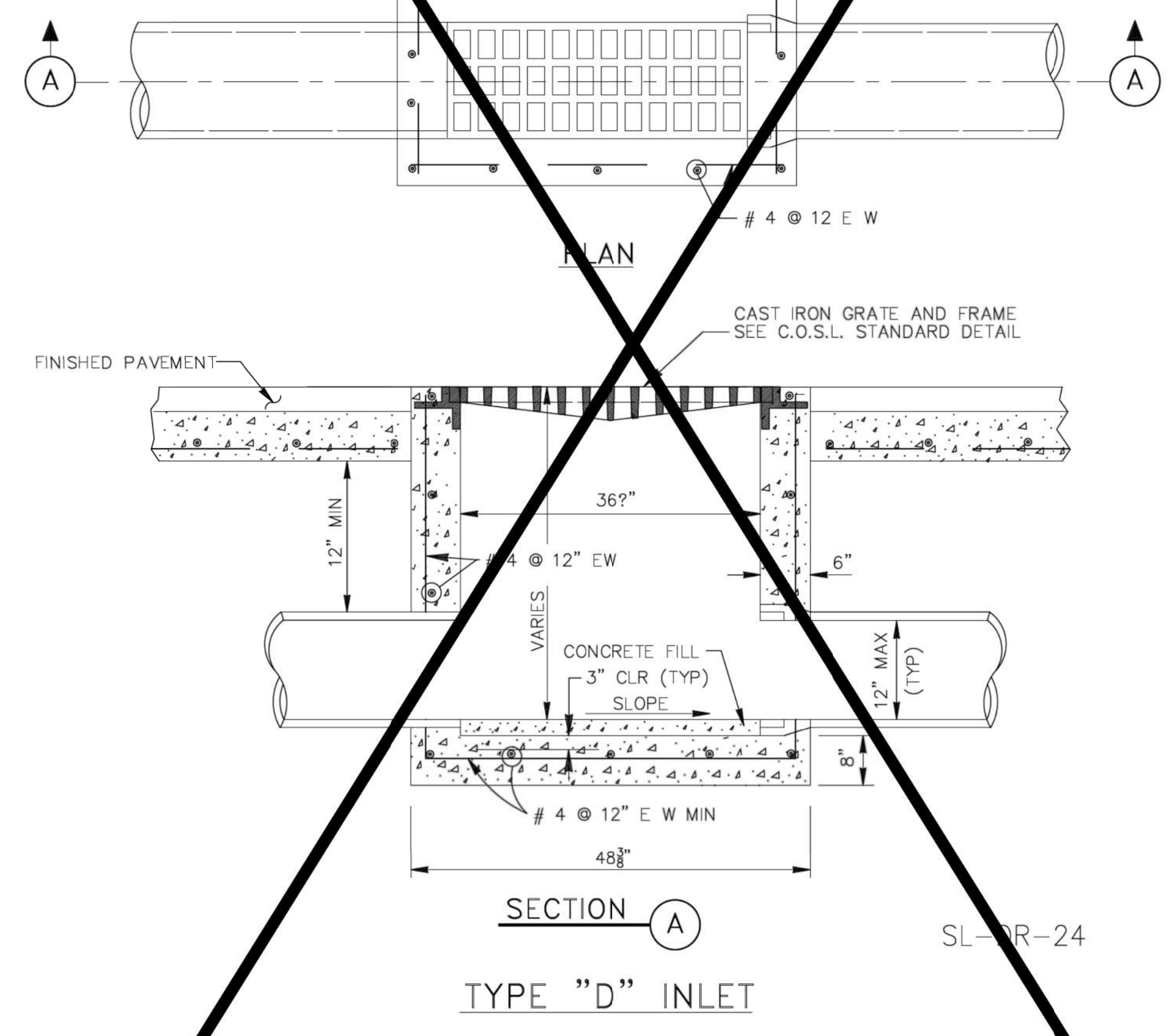
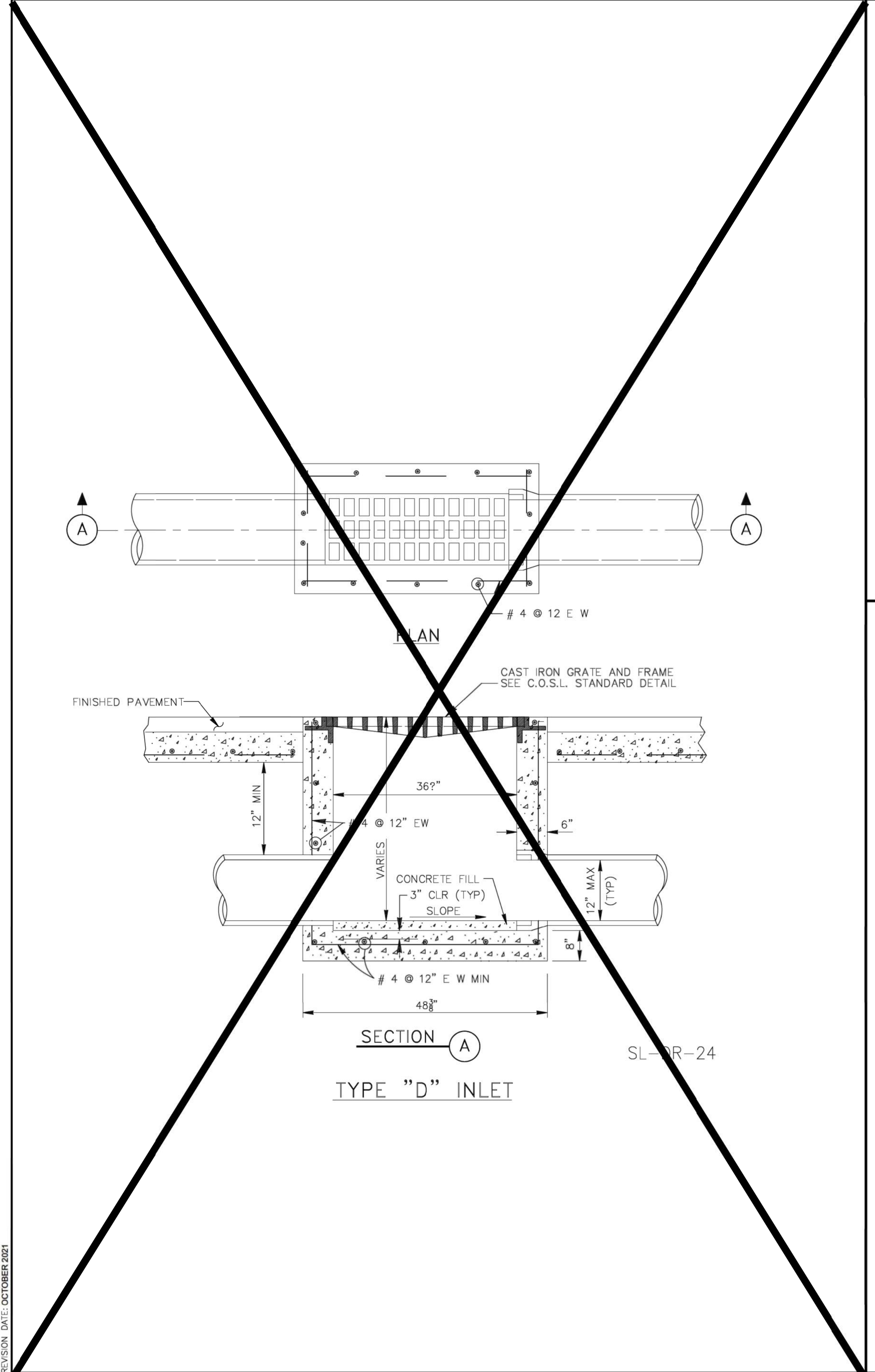
CITY OF ANGLETON
LIVE OAK RANCH

STORM DETAILS
(4 OF 10)

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	1-21027000-01
DWGN.	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

SCALE:
HORIZ. N/A
VERT. N/A

SHEET 41 OF 49 SHEETS



GENERAL CONSTRUCTION NOTES:

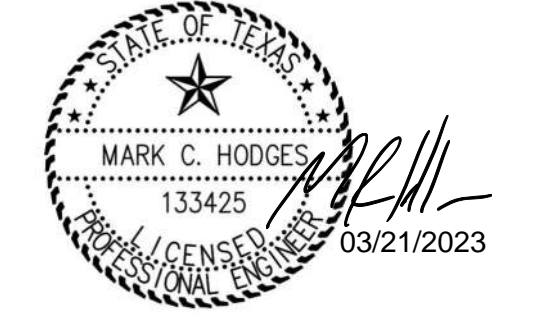
1. CONCRETE CAST WALLS SHALL HAVE #4 REBAR PLACED @ 12" C-C EW.
2. GRATE LID IS EAST JORDAN IRON WORKS OR APPROVED EQUAL.

REFER TO:

1. GENERAL NOTES, C.S.S. & CONCRETE NOTES
2. STORM SEWER NOTES

BENCHMARK(S) / FLOODPLAIN		
BENCHMARK: ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, NAVD83 DATUM AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.		
TEMPORARY BENCHMARK-A: TEMPORARY BENCHMARK "A" BOX OUT IN CONCRETE ON THE SOUTHEAST CORNER OF A CONCRETE INTERCEPTOR AT THE INTERSECTION OF DALLAS DRIVE AND ANGLETON BLVD., HAVING AN ELEVATION OF 22.46 FEET, (NAVD83, 2001 ADJUSTMENT)		
TEMPORARY BENCHMARK-B: TEMPORARY BENCHMARK "B" IS A BOX OUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)		
FLOODPLAIN: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48039C0445K, EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".		
APPR.	REVISION	DATE

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 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseyeg.com
 TBPE No. F-17637

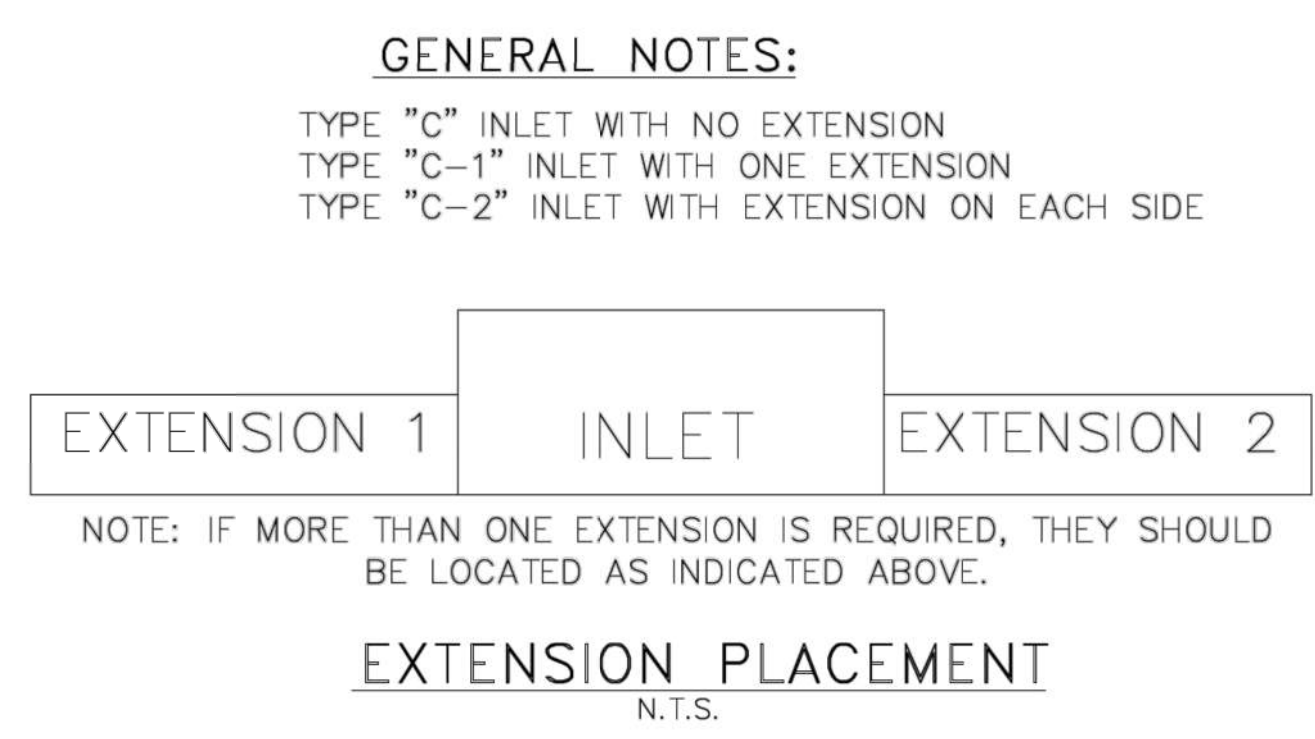
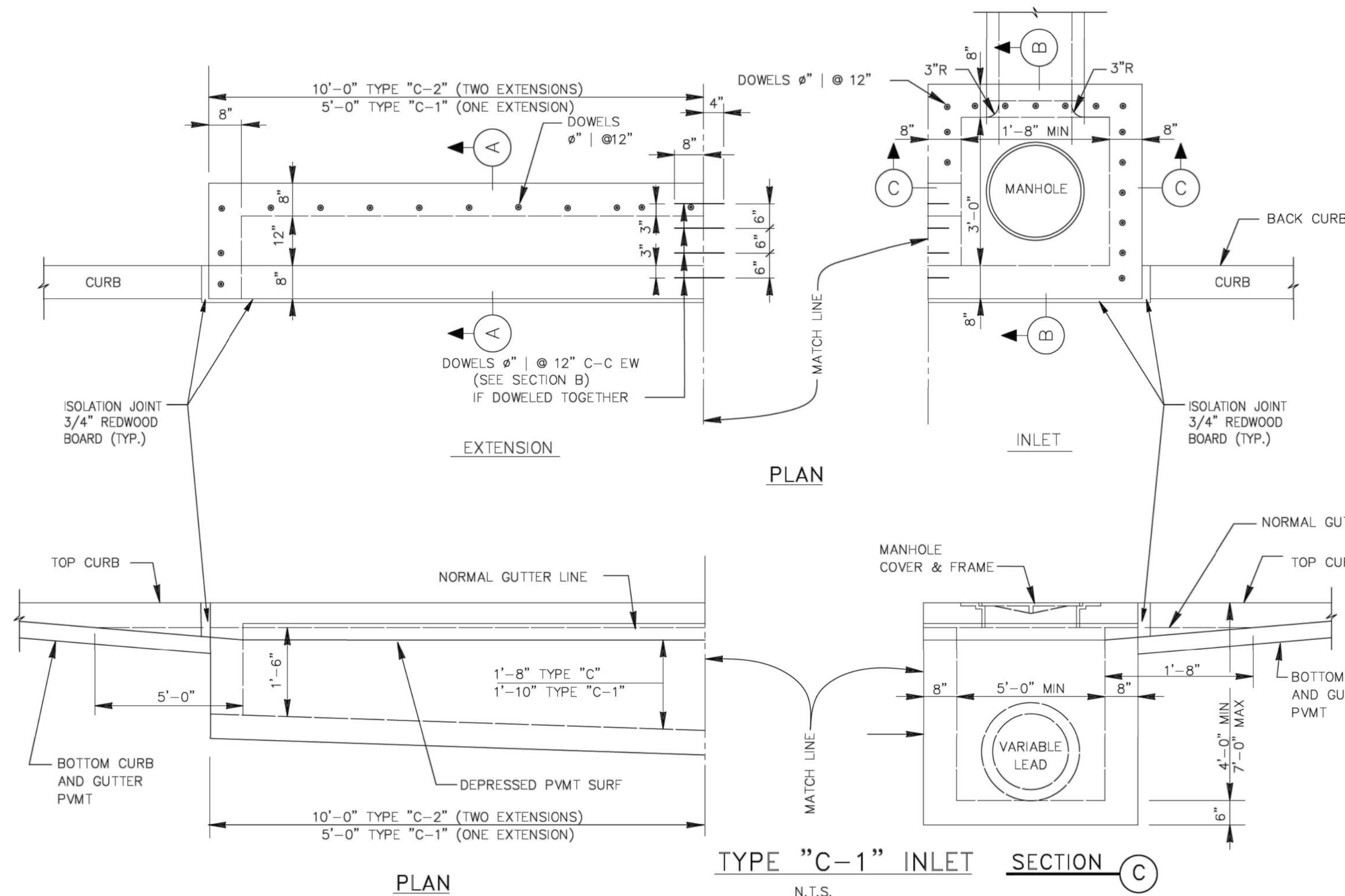


**CITY OF ANGLETON
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 Angleton, Texas 77515

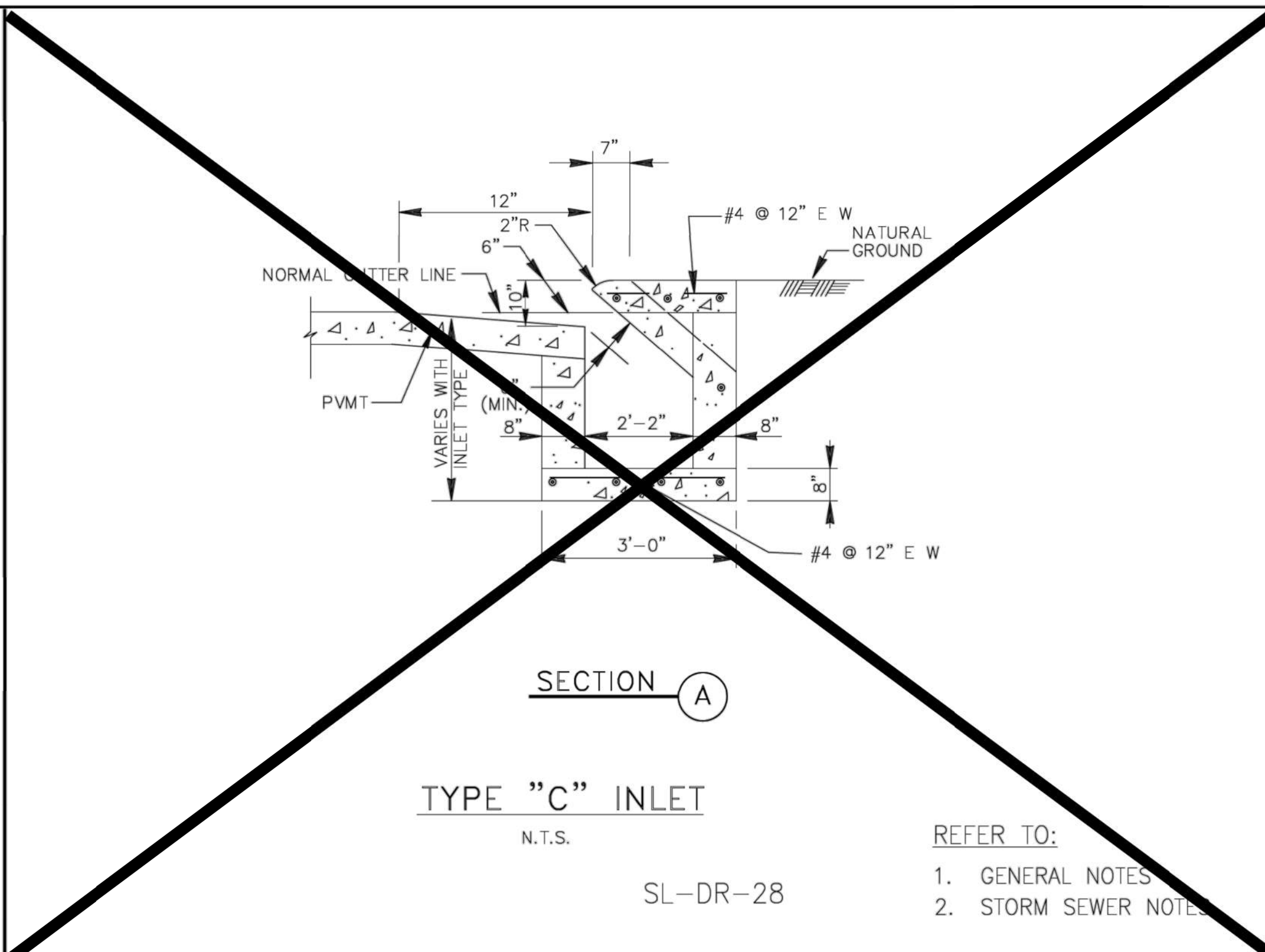
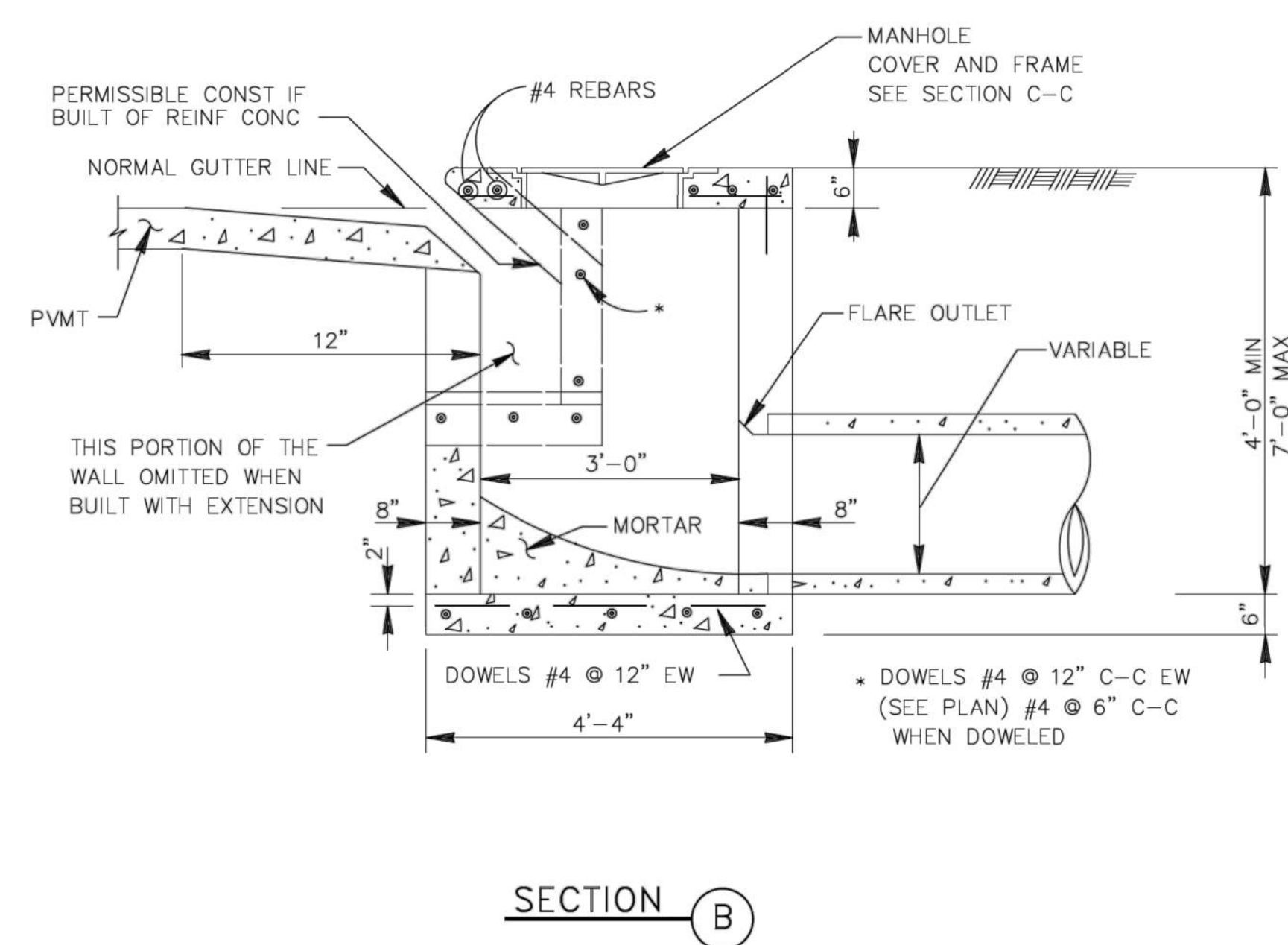
CITY OF ANGLETON
 LIVE OAK RANCH

STORM DETAILS
 (5 OF 10)

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	I-21027000-01
DWGN.	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		
SCALE:	HORIZ	NIA			
	VERT.	NIA			



- NOTES:**
- FOR TYPE "C-1" INLETS PROVIDE A CENTER 6"x6" COLUMNS IN THE CURB LINE BETWEEN ALL EXTENSIONS.
 - WALLS TO BE 8" IF BUILT WITH REINFORCED CONCRETE. BRICK WALLS ARE NOT ALLOWED.



BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
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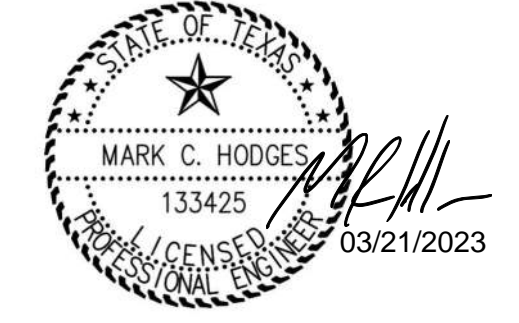
TEMPORARY BENCHMARK-A:
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FLOODPLAIN:
 ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400K EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE

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 2500 Tanglewilde Street, Suite 300
 Houston, Texas 77063
 t: 281.306.0240 | www.odysseyeng.com
 TBPE No. F-17637



**CITY OF ANGLETON
 BRAZORIA COUNTY, TEXAS**

121 S Velasco,
 Angleton, Texas 77515

CITY OF ANGLETON
 LIVE OAK RANCH

**STORM DETAILS
 (7 OF 10)**

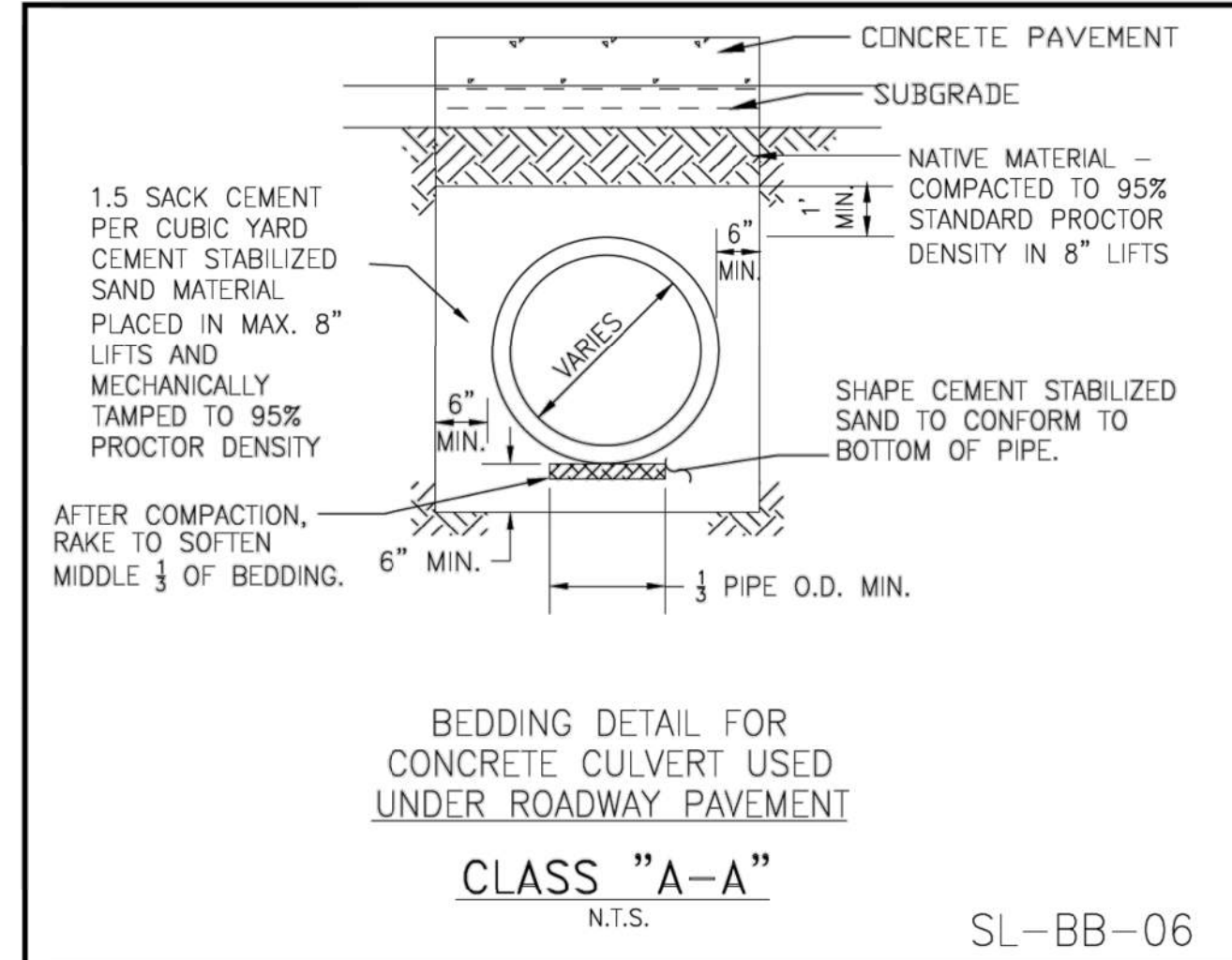
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DSGN.	NPM	DATE	6/22	IMAGE NO.	1-21027000-01
DWN.	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		
SCALE:	HORIZ	N/A			
	VERT.	N/A			

REVISION DATE: OCTOBER 2021

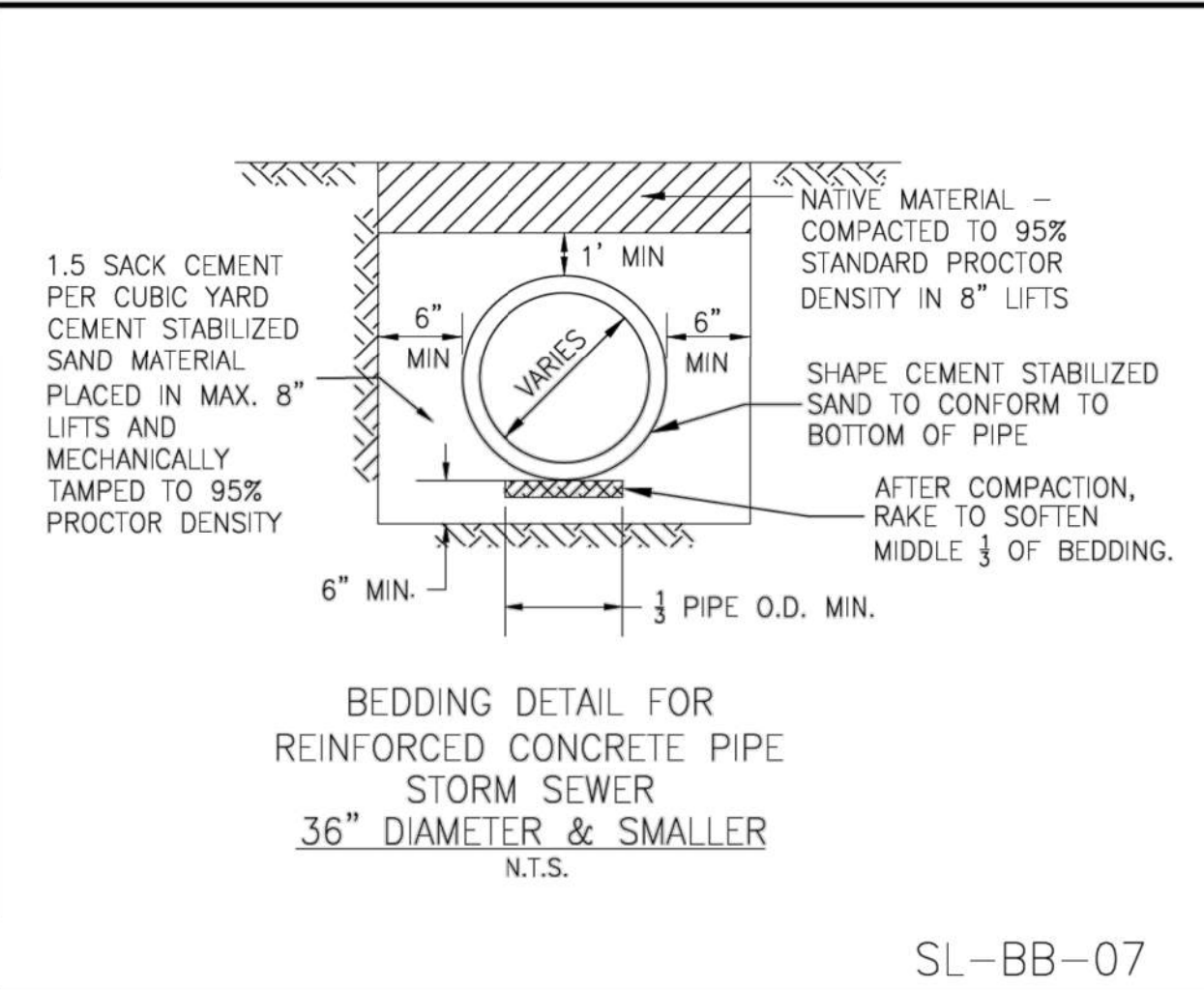
SL-DR-27A

SL-DR-28

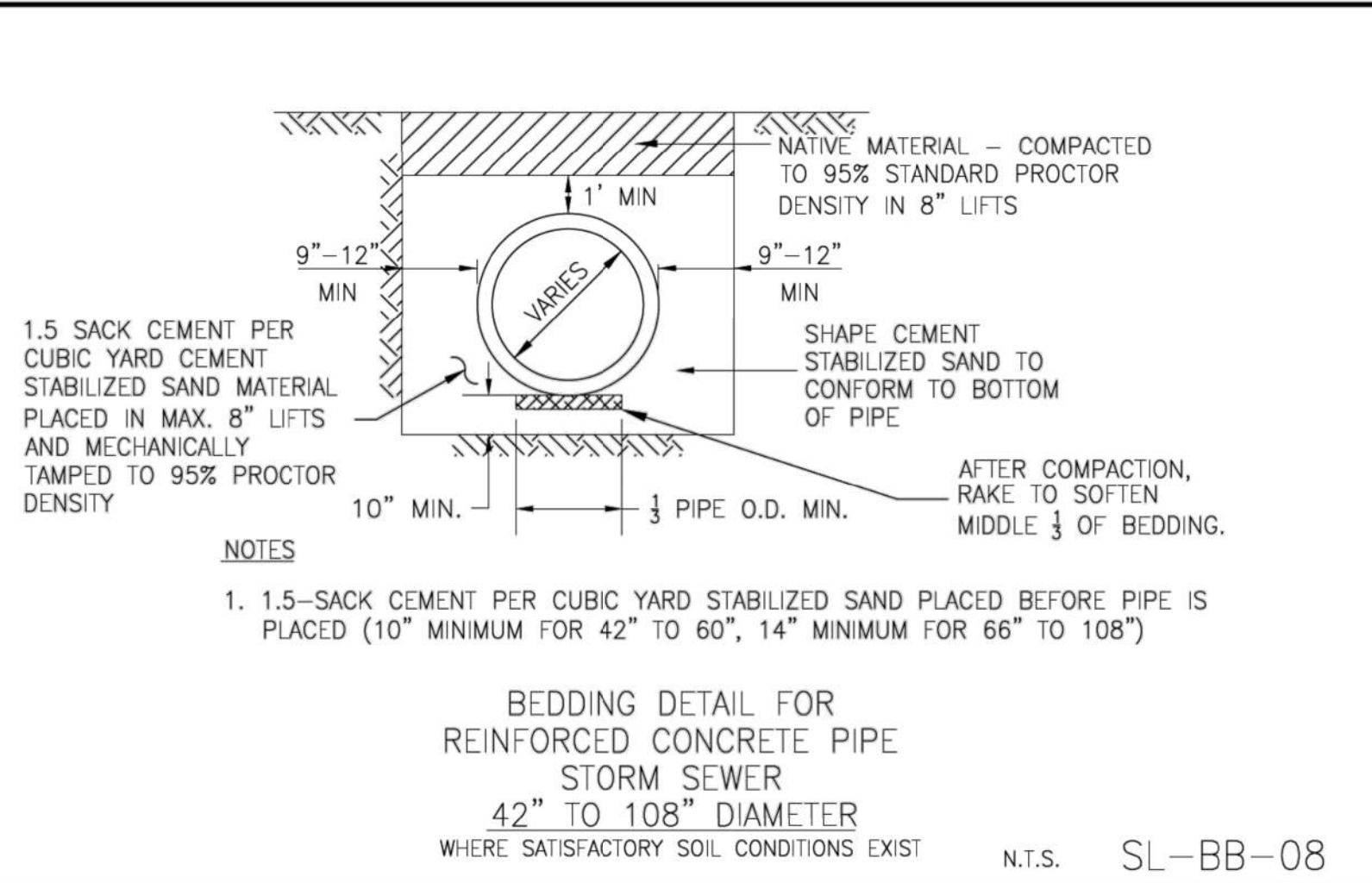
REFER TO:
 1. GENERAL NOTES
 2. STORM SEWER NOTES



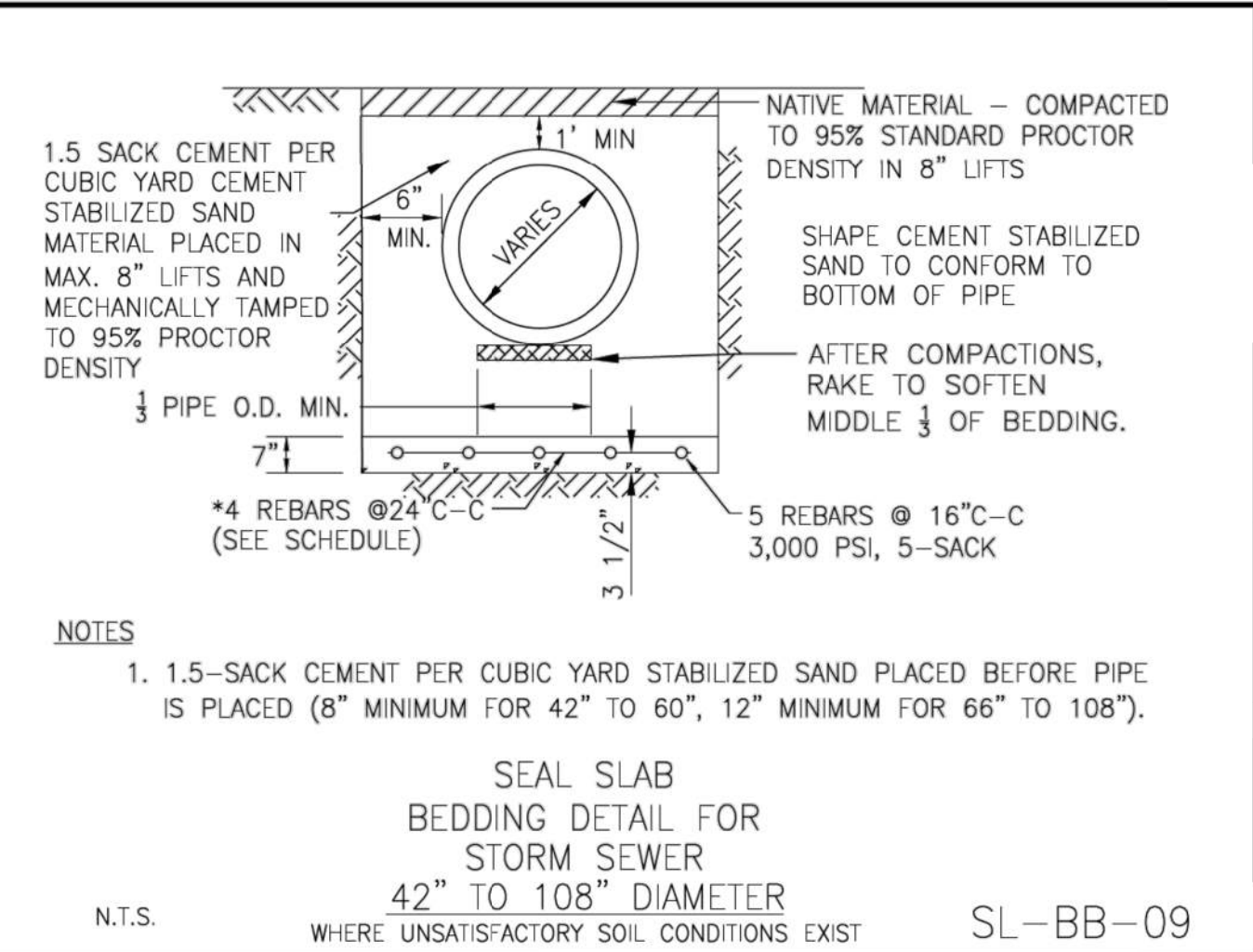
BEDDING DETAIL FOR CONCRETE CULVERT USED UNDER ROADWAY PAVEMENT
CLASS "A-A"
N.T.S. SL-BB-06



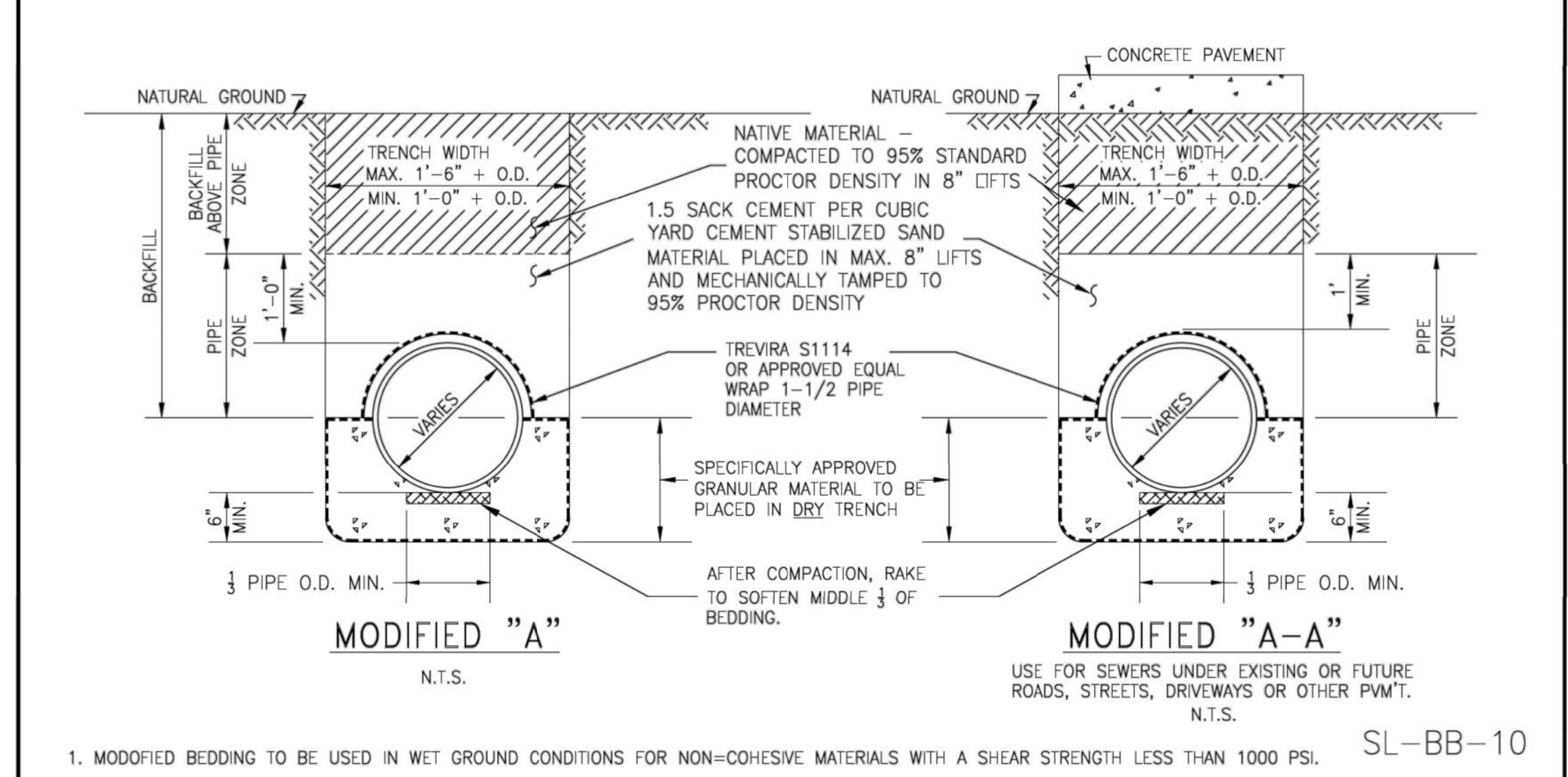
BEDDING DETAIL FOR REINFORCED CONCRETE PIPE STORM SEWER
36" DIAMETER & SMALLER
N.T.S. SL-BB-07



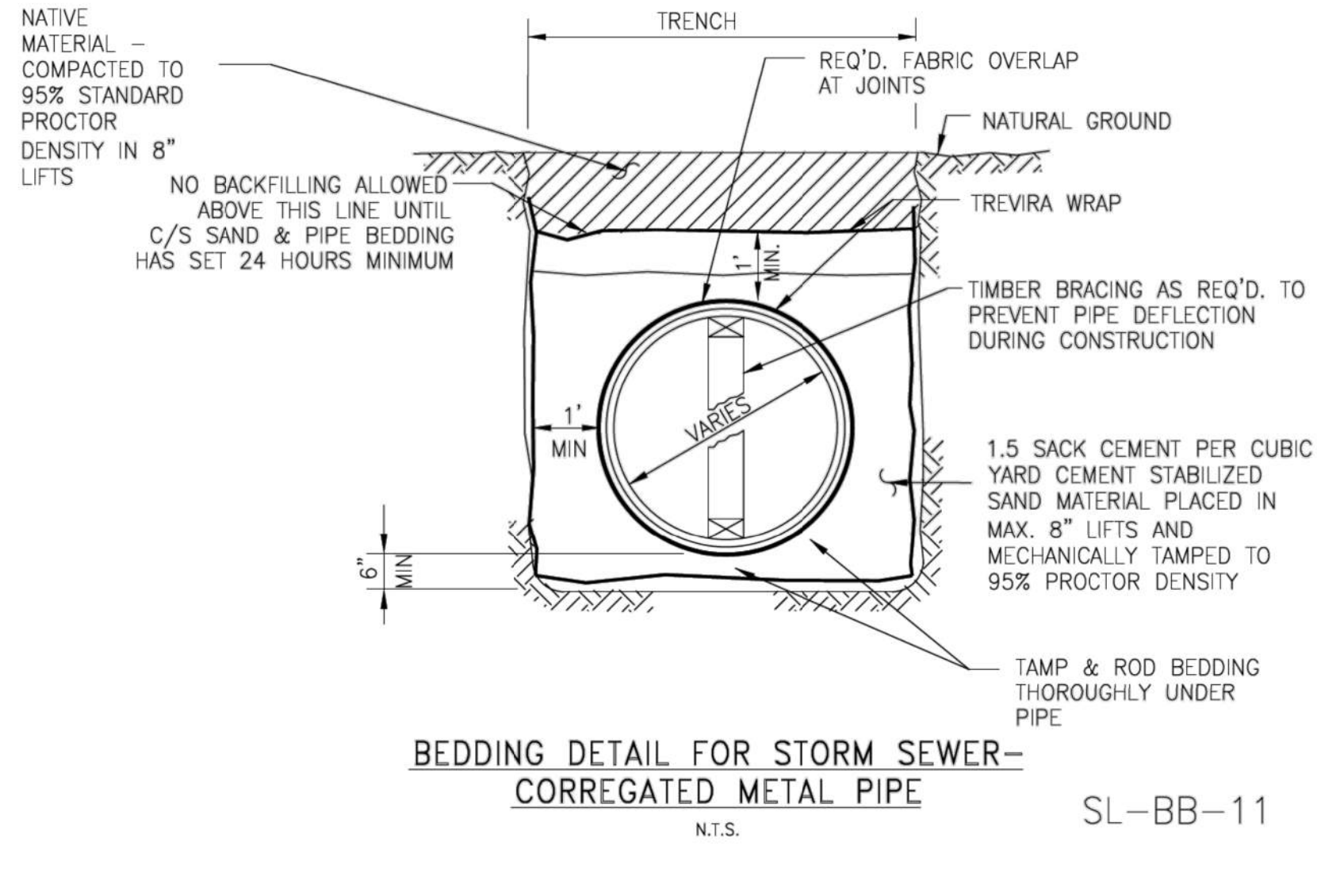
BEDDING DETAIL FOR REINFORCED CONCRETE PIPE STORM SEWER
42" TO 108" DIAMETER
WHERE SATISFACTORY SOIL CONDITIONS EXIST N.T.S. SL-BB-08



SEAL SLAB BEDDING DETAIL FOR STORM SEWER
42" TO 108" DIAMETER
WHERE UNSATISFACTORY SOIL CONDITIONS EXIST N.T.S. SL-BB-09



MODIFIED "A" N.T.S. SL-BB-10
MODIFIED "A-A" N.T.S. SL-BB-10
1. MODIFIED BEDDING TO BE USED IN WET GROUND CONDITIONS FOR NON-COHESIVE MATERIALS WITH A SHEAR STRENGTH LESS THAN 1000 PSI.



BEDDING DETAIL FOR STORM SEWER - CORRUGATED METAL PIPE
N.T.S. SL-BB-11

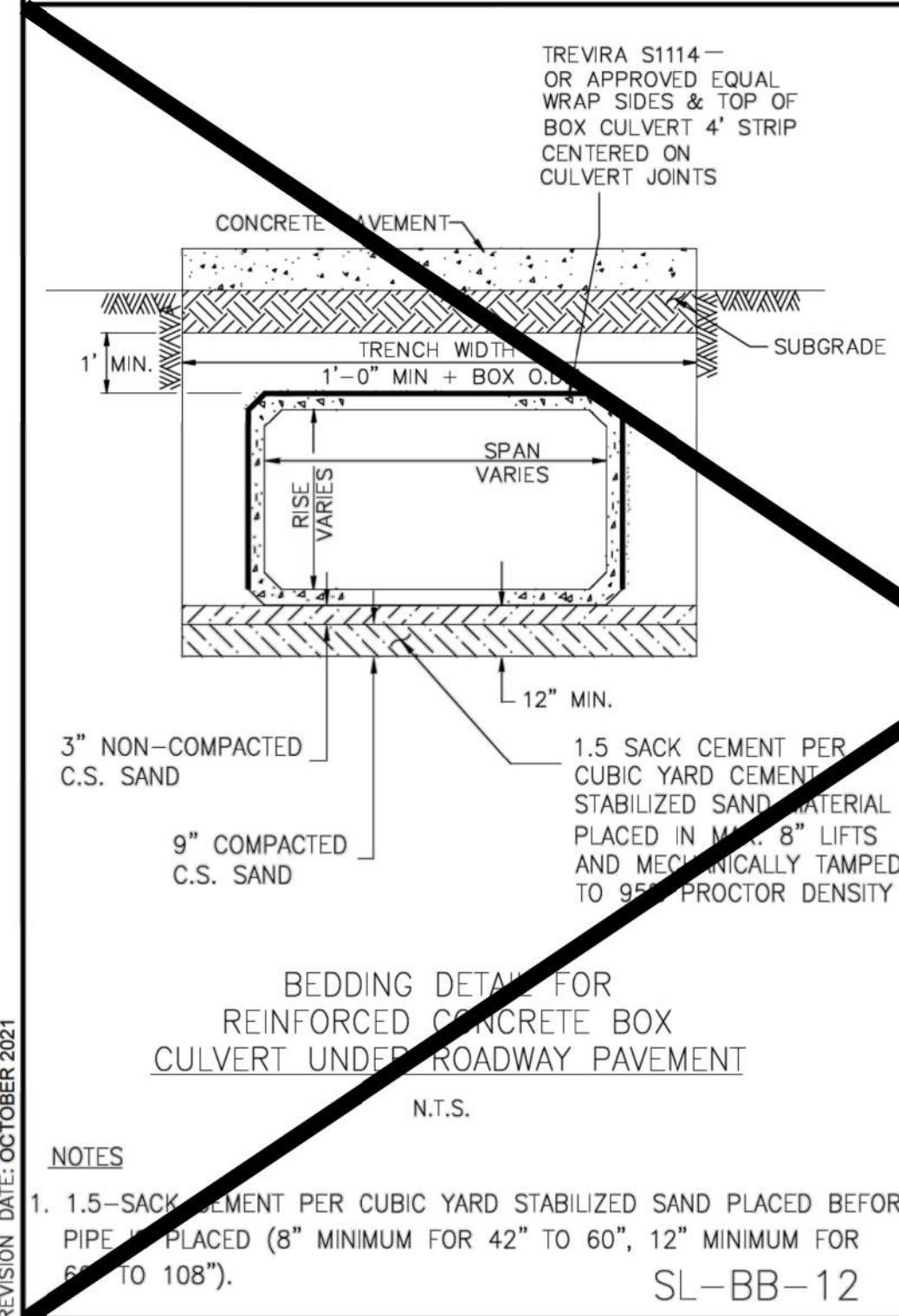
CONSTRUCTION NOTES

- CONTRACTOR SHALL CONTACT SUGAR LAND ENGINEERING DEPARTMENT IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED.
- SPECIFICALLY APPROVED GRANULAR MATERIAL DIMENSIONS SHOWN ARE TYPICAL BUT MAY BE VARIED BY ORDER OF CITY ENGINEER.
- SPECIFICALLY APPROVED GRANULAR MATERIAL SHALL BE IN ACCORDANCE WITH TxDOT SPECIFICATION No. 247 FLEXIBLE BASE, TYPE A, GRADE 2 AGGREGATE.
- NO BEDDING SHALL BE INSTALLED IN WET CONDITIONS. WHEN WELL POINTING OR IN WET SAND CONDITIONS, MAINTAIN GRADE WATER 1' (FT.) BELOW BOTTOM OF TRENCH FOR A MINIMUM OF 24-HRS AFTER BEDDING AND BACKFILL IS IN PLACE.
- R.C.P. AND BOX CULVERTS SHALL BE INSTALLED WITH APPROVED GASKETS ONLY.
- MANHOLES SHALL BE PROVIDED WHERE MODIFIED "A" OR MODIFIED "A-A" BEDDING IS USED. STACKS ARE NOT ALLOWED.
- REFER TO: MANHOLE DETAILS, INLETS, OUTFALL AND END TREATMENT DETAILS, C.S.S., GENERAL NOTES, AND STORM NOTES.
- SPECIFIC DESIGNS MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER FOR MANHOLE ACCESS TO BOX CULVERTS AS REQUIRED.
- ALL BACKFILL WITHIN THE R.O.W. SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- A GEOTECHNICAL REPORT MAY BE REQUIRED TO ANALYZE THE BEARING CAPACITY OF EXISTING SOILS AND MAKE A DETERMINATION IF ADDITIONAL BEDDING AND BACKFILL IS APPROPRIATE.
- EXCAVATE A HOLE \$ BELL HOLES FOR BELL PIPES (NO ADDITIONAL PAYMENT)

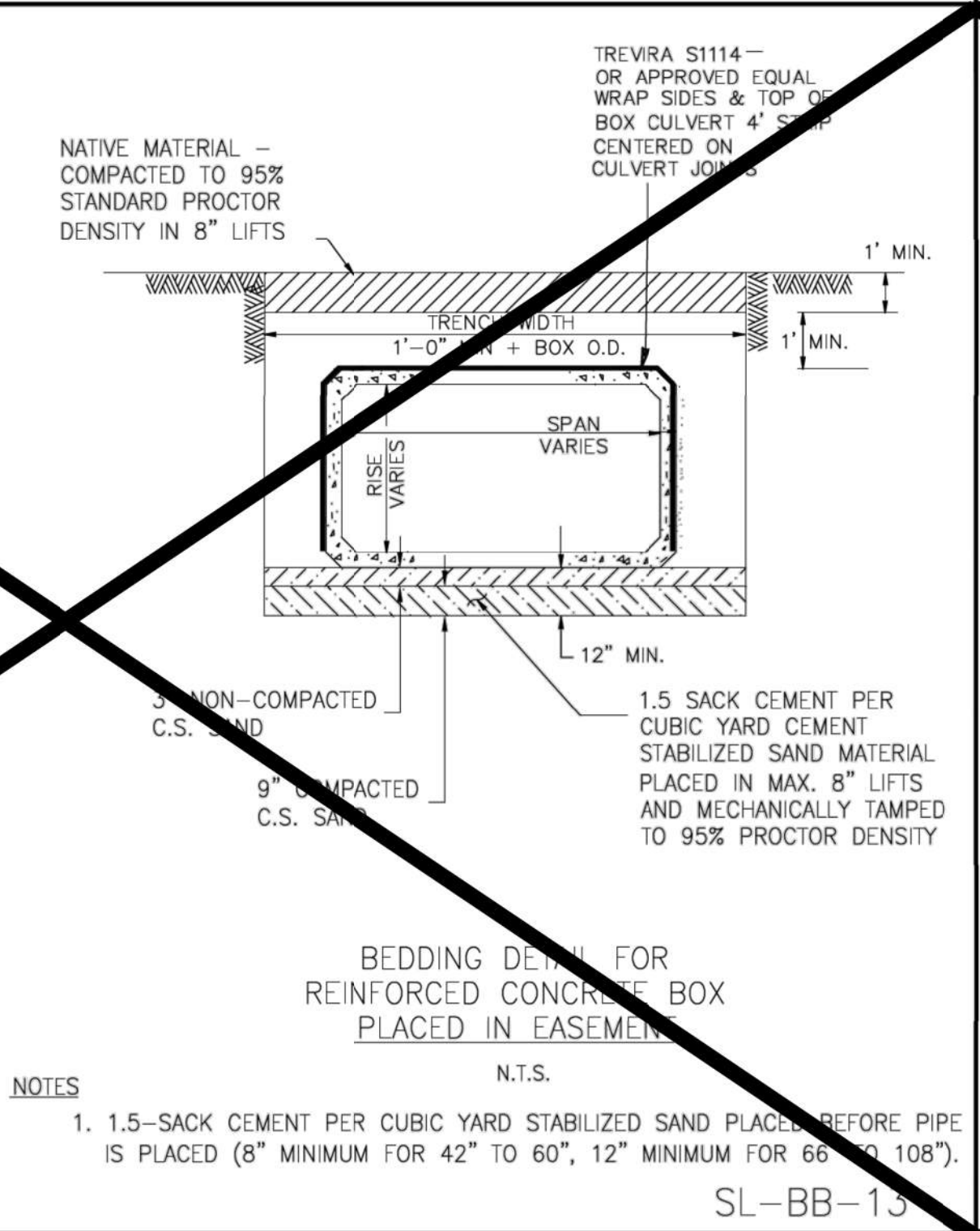
TYPICAL SEAL SLAB BAR SCHEDULE (OR AS DIRECTED BY ENGINEER)

PIPE SIZE	LGT #4 BARS	NO LONGIT #5 BARS
42"	5'4"	5
48"	6'8"	6
54"	6'8"	6
60"	8'0"	7
66"	8'0"	7
72"	9'4"	8
78"	9'4"	8
84"	9'4"	8
90"	10'8"	9
96"	10'8"	9
102"	12'0"	10
108"	12'0"	10

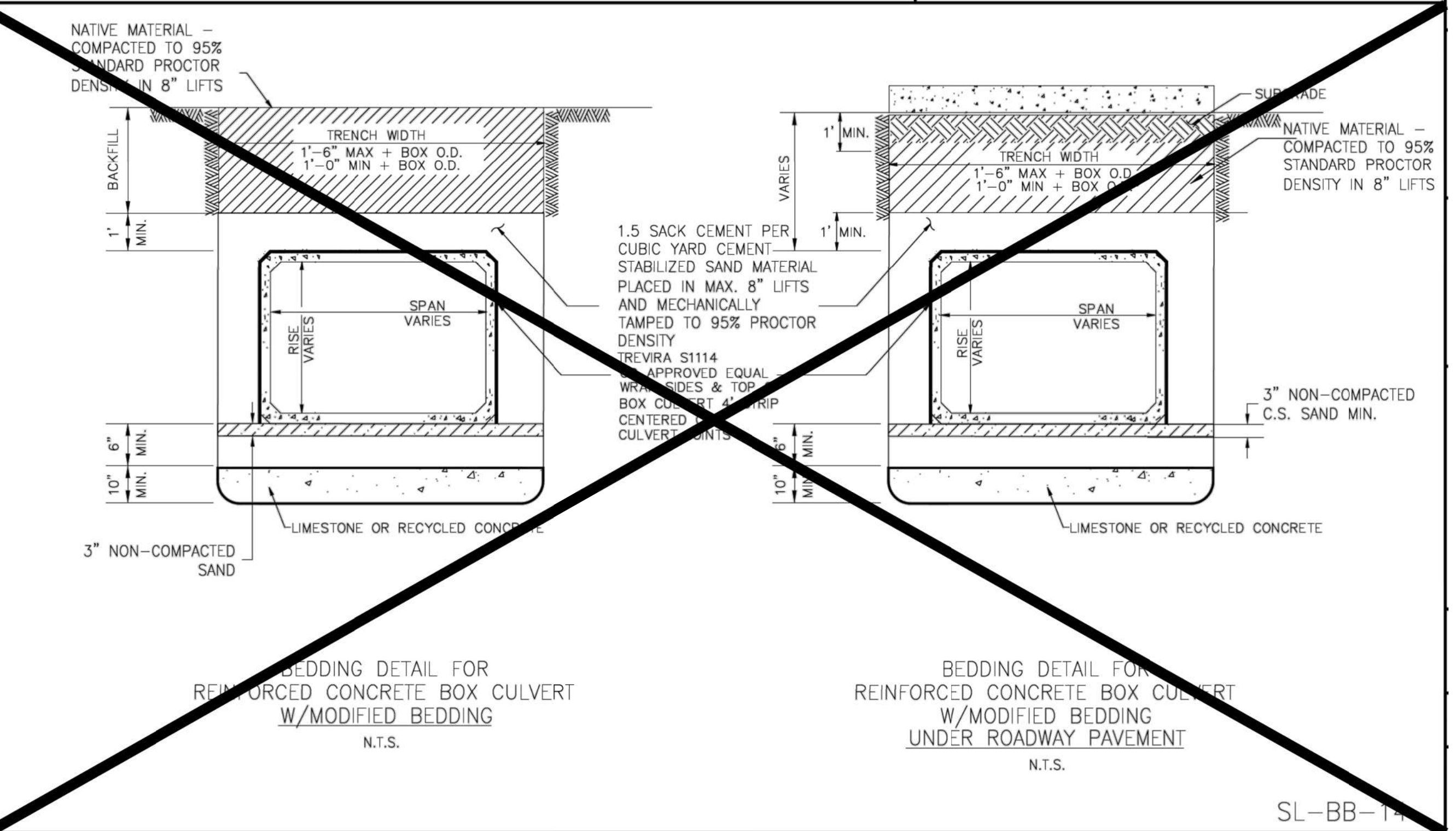
SL-BB-15



BEDDING DETAIL FOR REINFORCED CONCRETE BOX CULVERT UNDER ROADWAY PAVEMENT
N.T.S. SL-BB-12



BEDDING DETAIL FOR REINFORCED CONCRETE BOX CULVERT PLACED IN EASEMENT
N.T.S. SL-BB-13



BEDDING DETAIL FOR REINFORCED CONCRETE BOX CULVERT W/MODIFIED BEDDING UNDER ROADWAY PAVEMENT
N.T.S. SL-BB-14

BENCHMARK(S) / FLOODPLAIN

BENCHMARK:
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FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400 EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**
121 S Velasco,
Angleton, Texas 77515

**CITY OF ANGLETON
LIVE OAK RANCH**

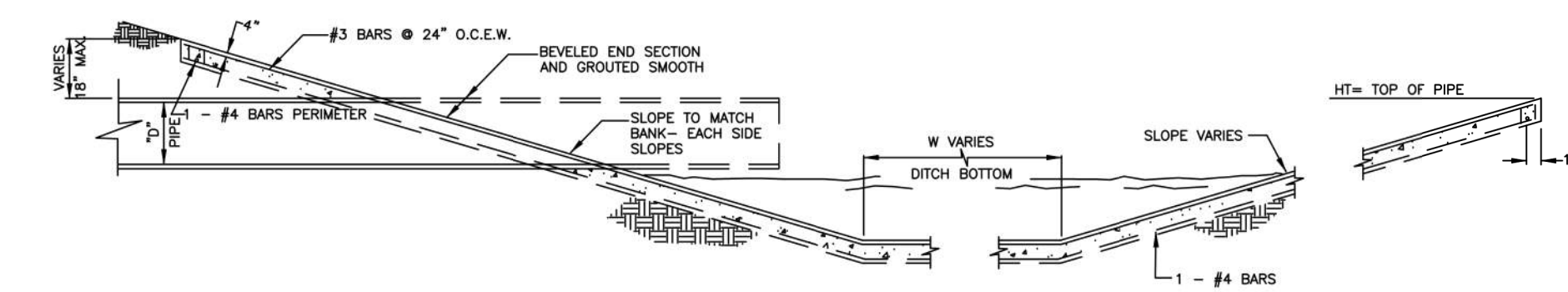
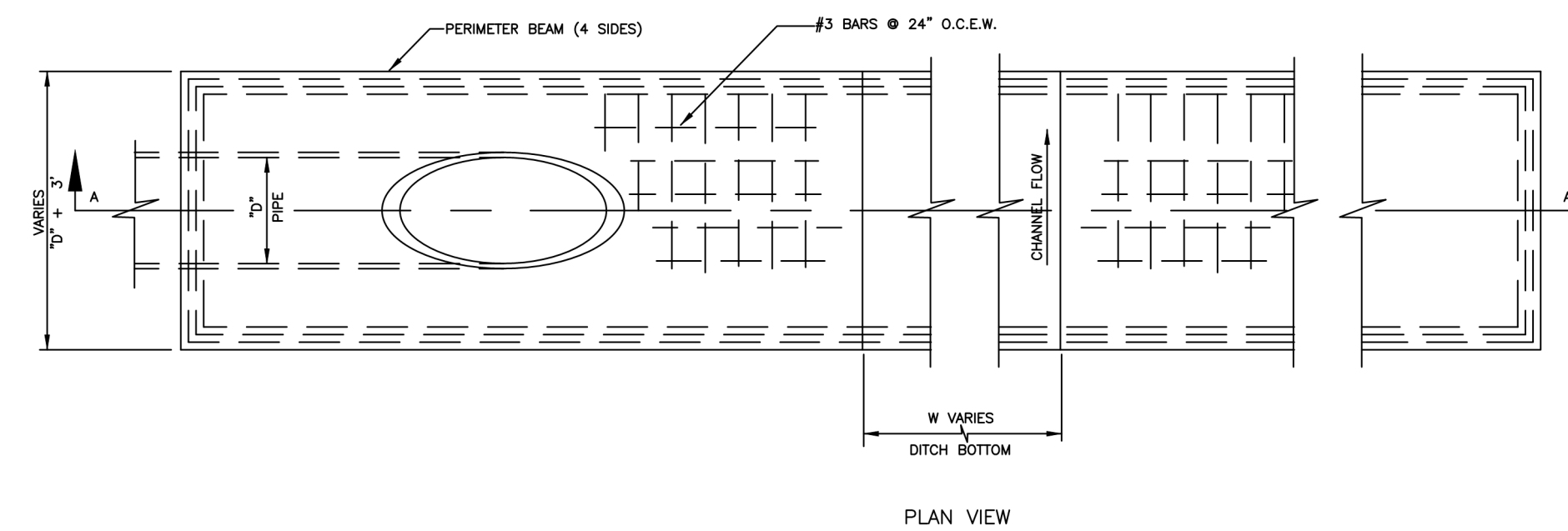
STORM DETAILS (9 OF 10)

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	1-21027000-01
DWN.	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

SCALE: HORIZ. N/A VERT. N/A
SHEET 46 OF 49 SHEETS

REVISION DATE: OCTOBER 2021

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W= WIDTH PER PLAN
D= PIPE DIAMETER PER PLAN
S= SLOPE PER PLAN/FIELD

TYPICAL DRAINAGE OUTFALL CHANNEL

BENCHMARK(S) / FLOODPLAIN

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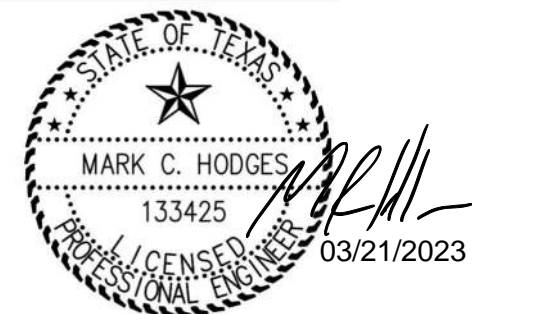
TEMPORARY BENCHMARK-B:
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FLOODPLAIN:
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APPR.	REVISION	DATE



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2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



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BRAZORIA COUNTY, TEXAS**

121 S Velasco,
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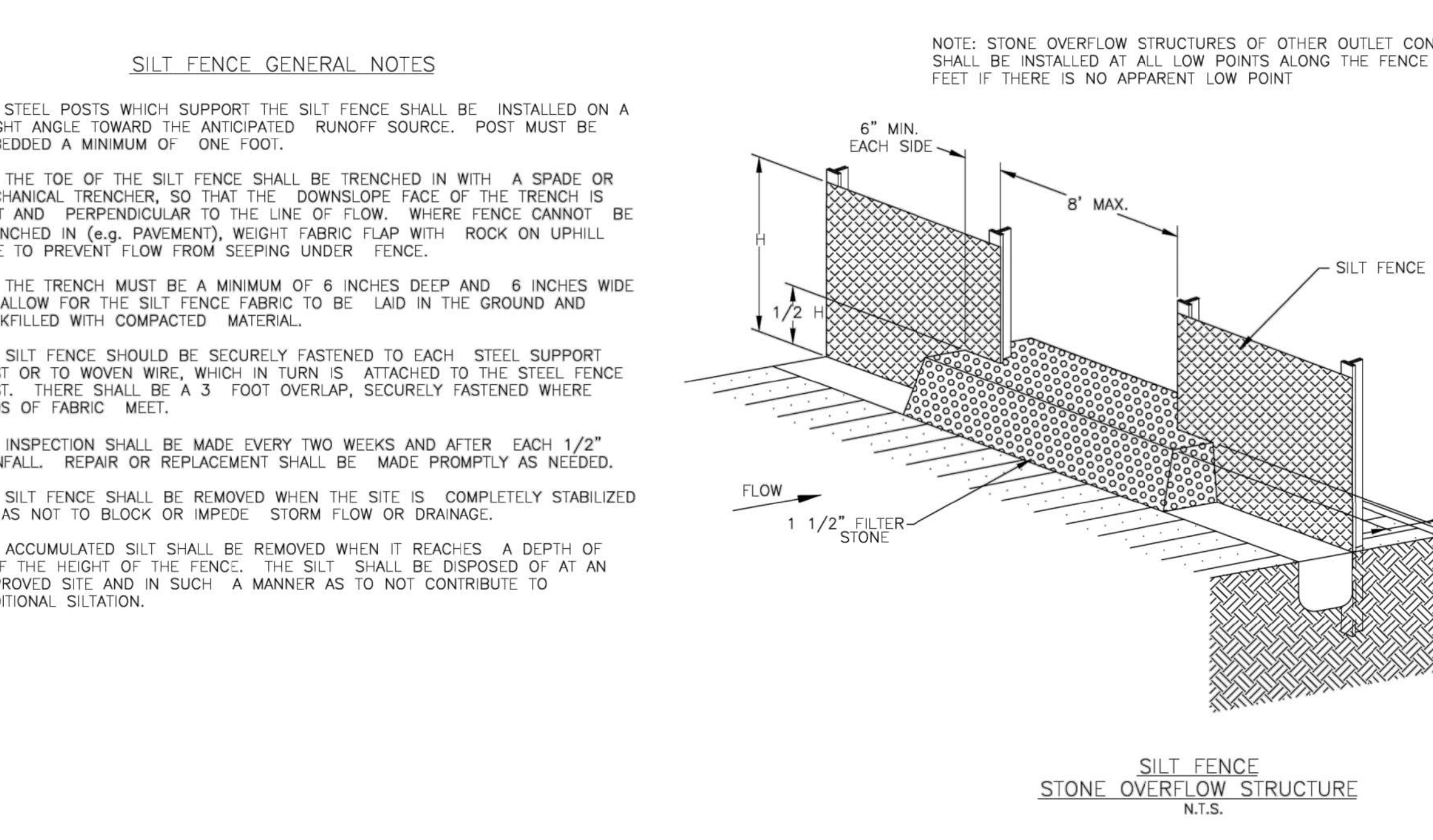
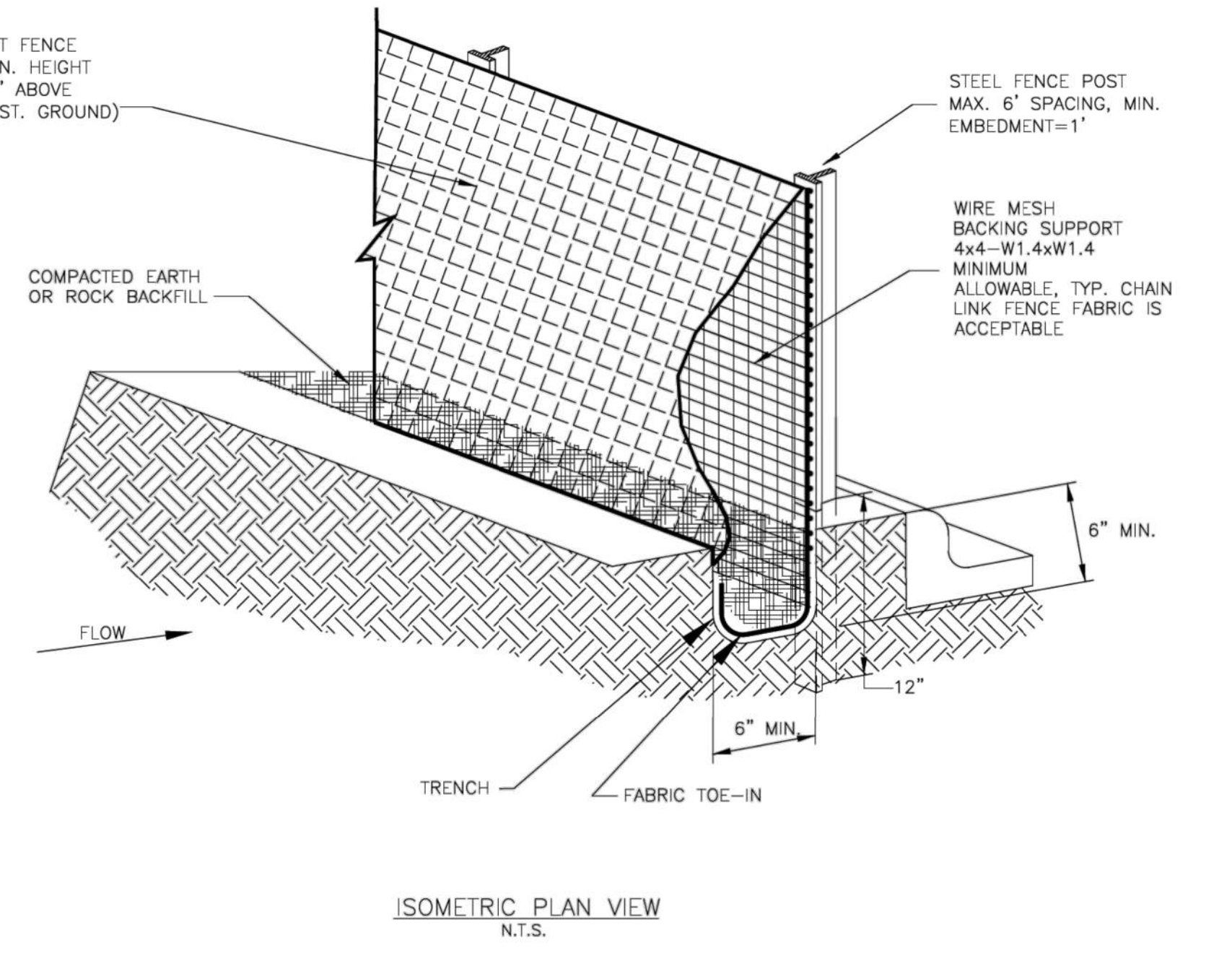
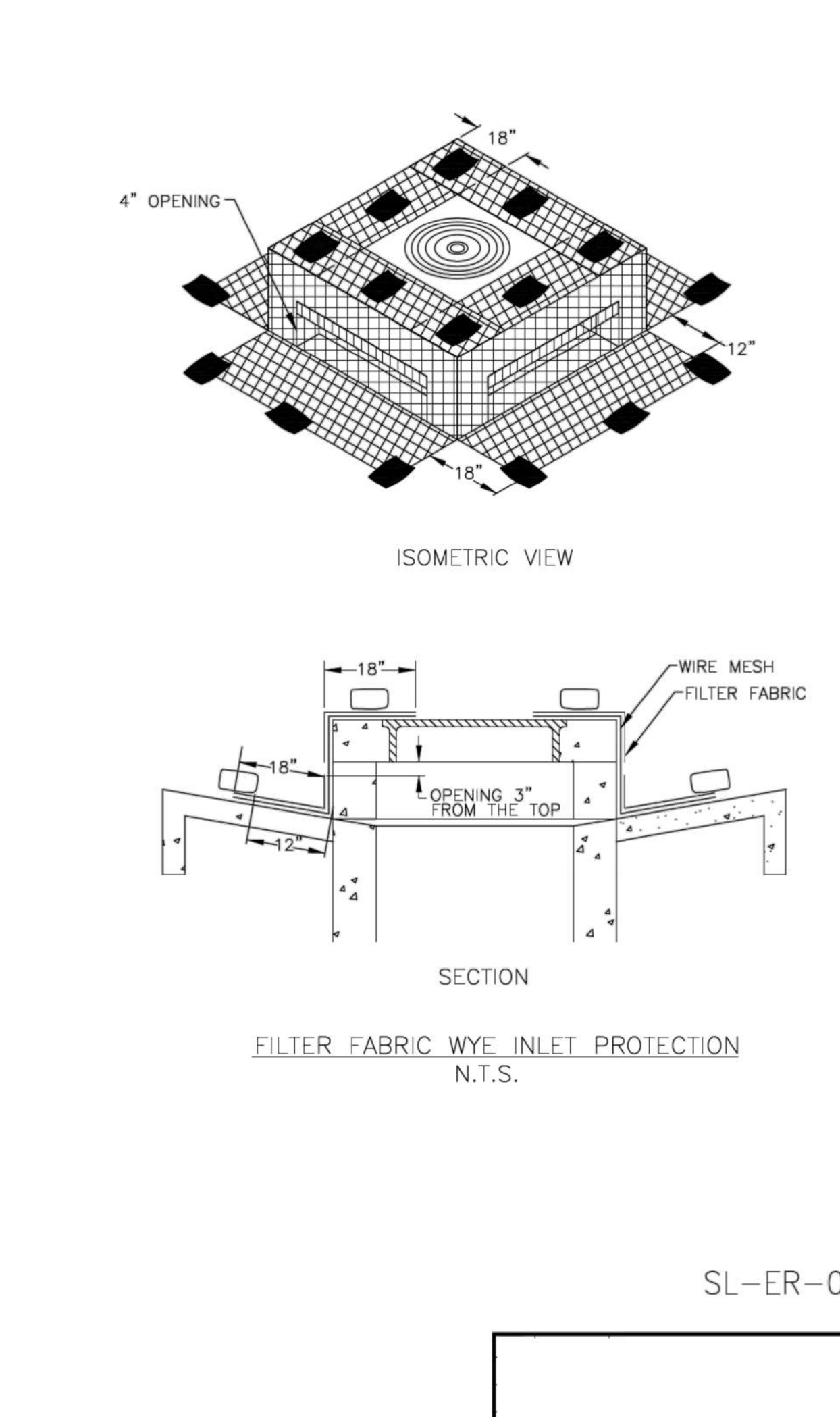
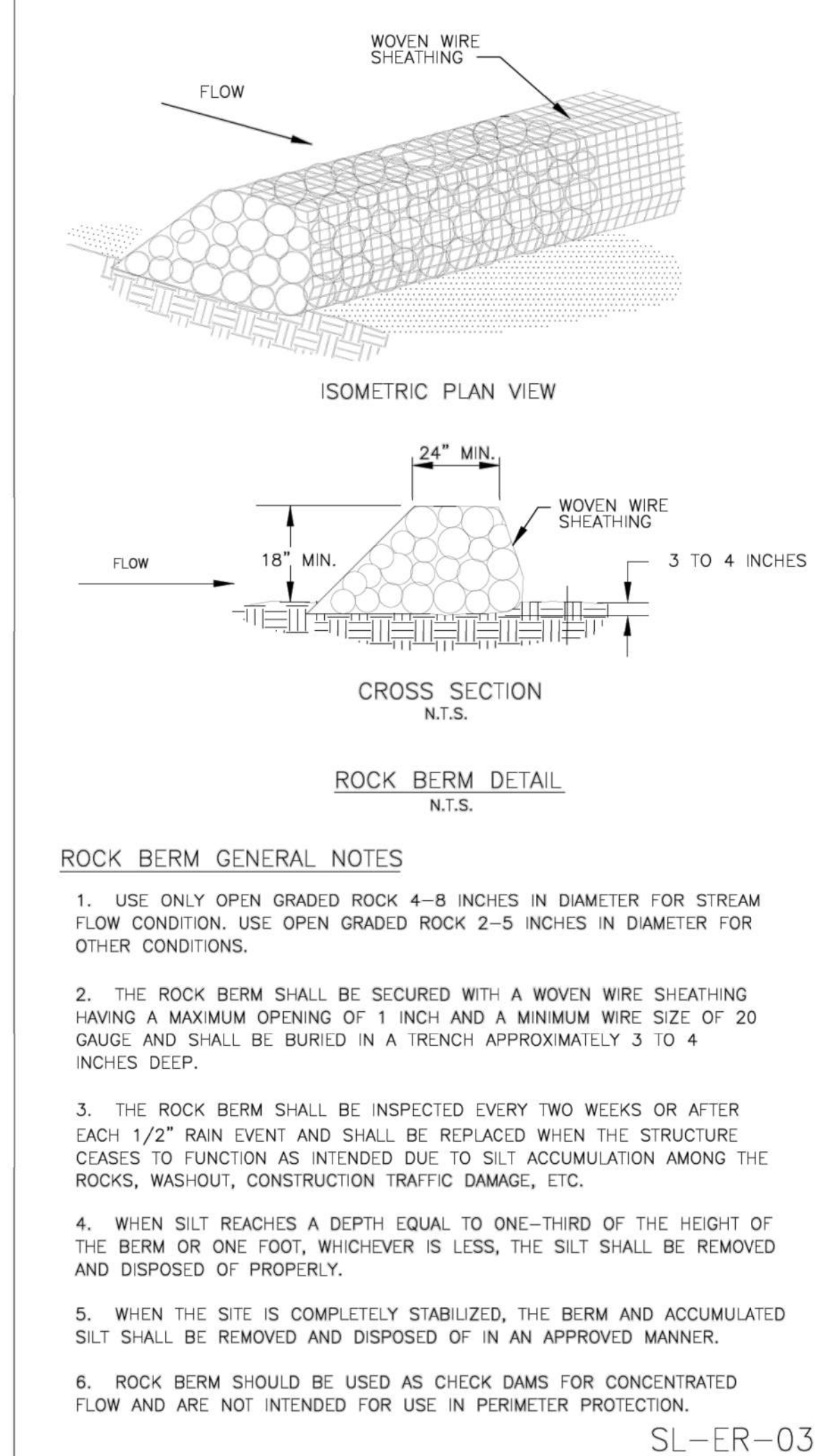
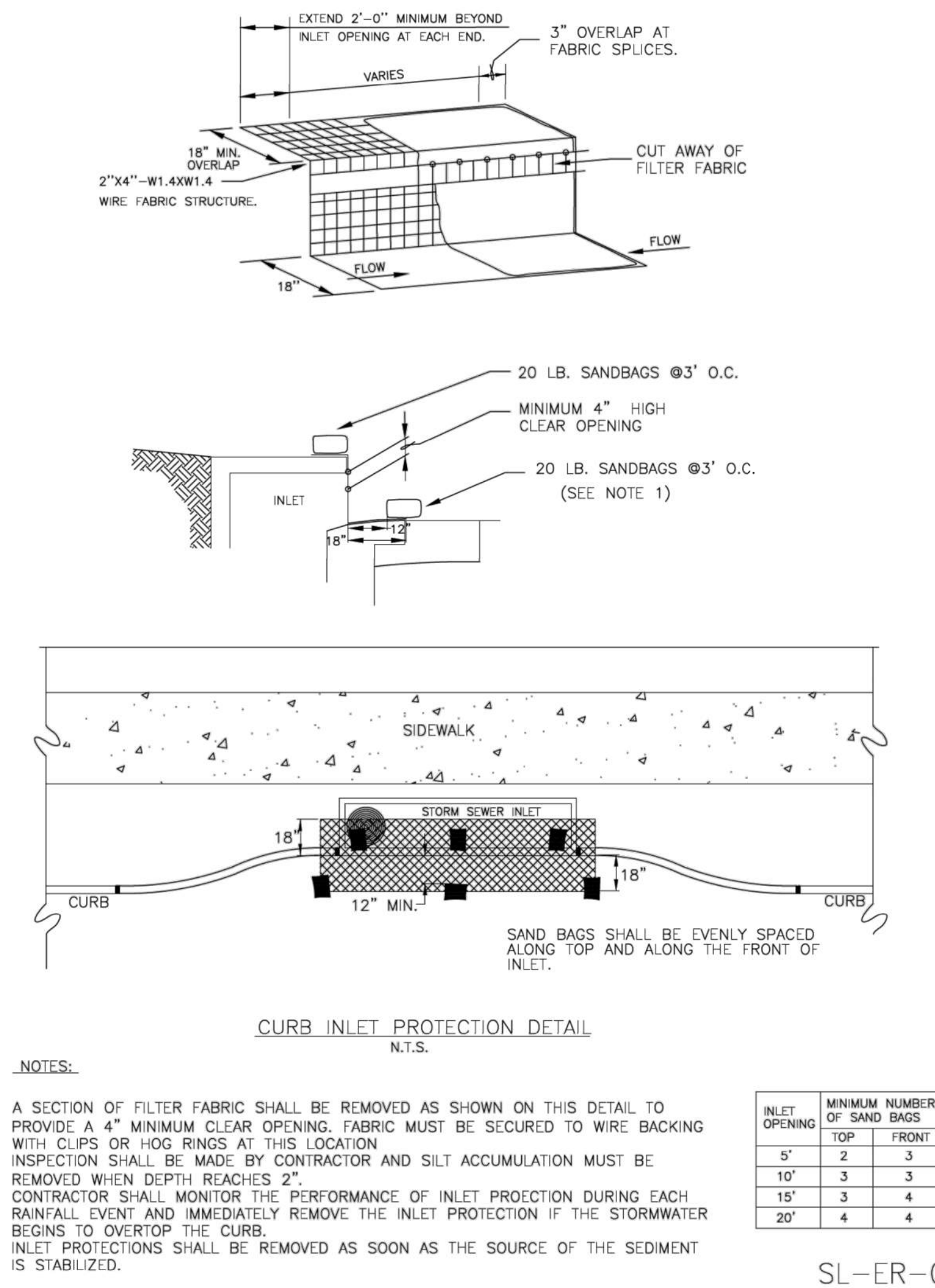
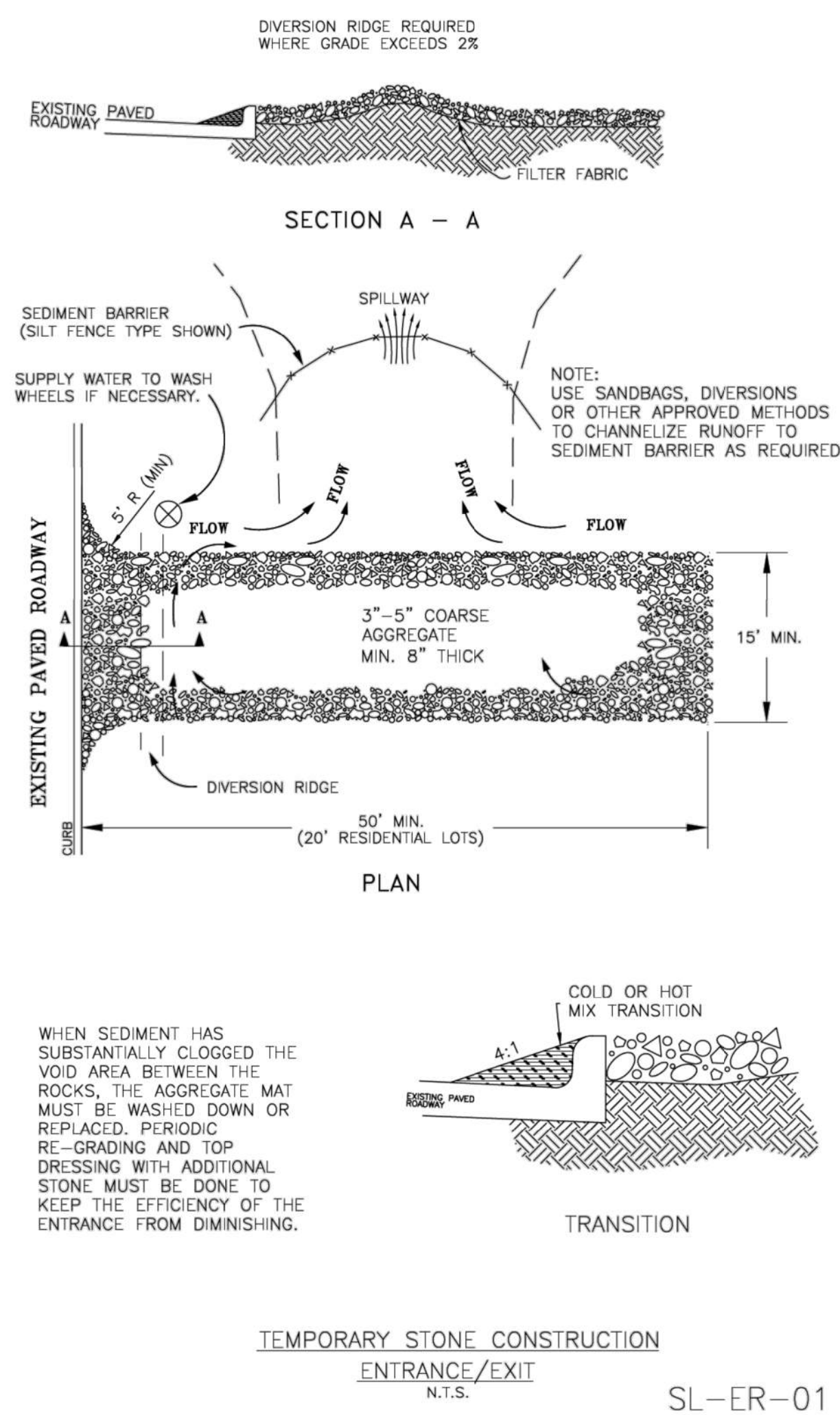
CITY OF ANGLETON
LIVE OAK RANCH

STORM DETAILS
(10 OF 10)

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	I-21027000-01
DWIN.	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

SCALE:	
HORIZ.	N/A
VERT.	N/A

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BENCHMARK(S) / FLOODPLAIN

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APPR.	REVISION	DATE

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STATE OF TEXAS
MARK C. HODGES
133425
03/21/2023

**CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS**

121 S Velasco,
Angleton, Texas 77515

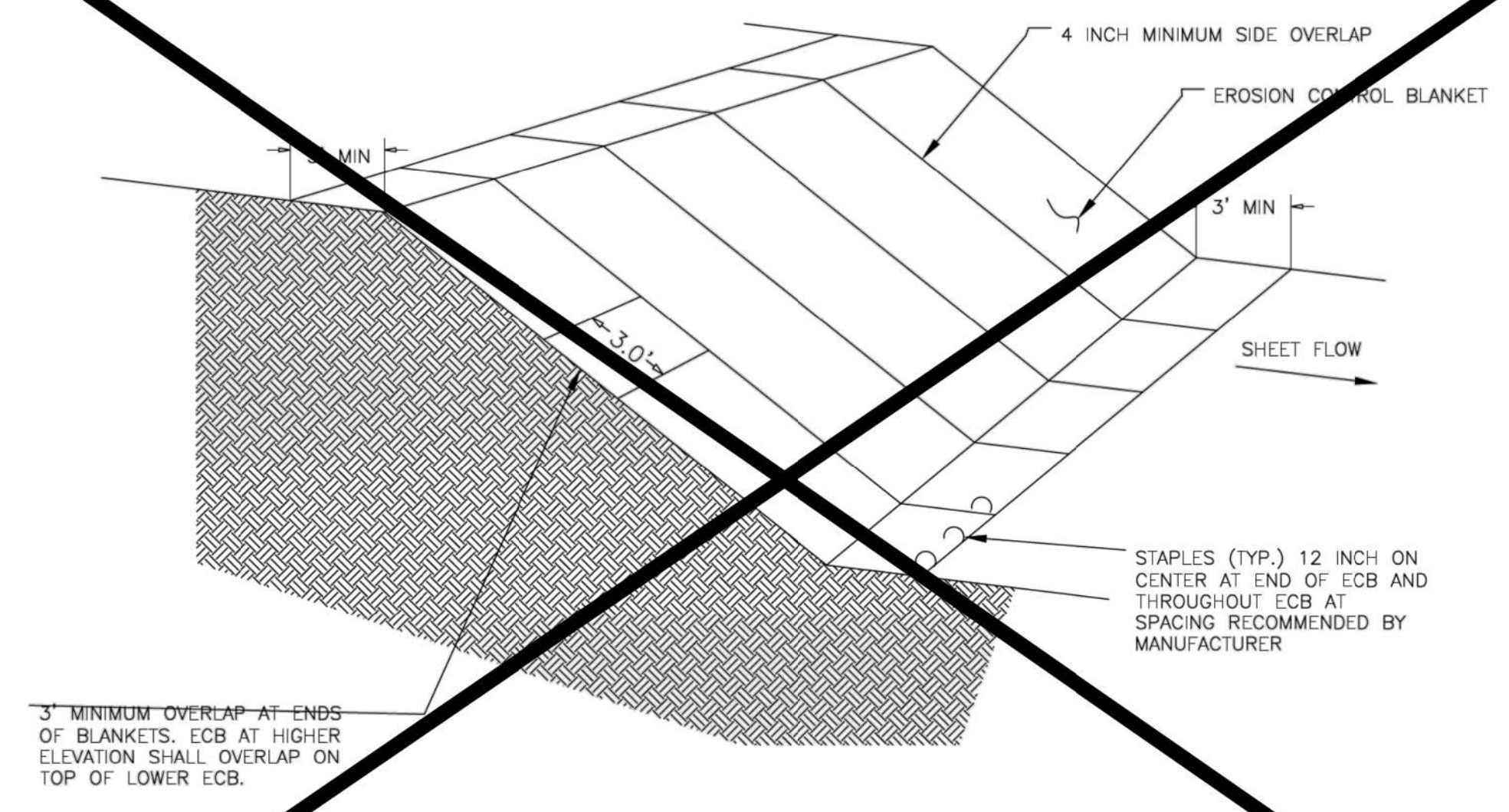
**CITY OF ANGLETON
LIVE OAK RANCH**

**STORM WATER POLLUTION
PREVENTION PLAN DETAILS (1 OF 2)**

SURV.	MS	DATE	5/22	JOB NO.	21-027-00
DSGN.	NPM	DATE	6/22	IMAGE NO.	1-21027000-01
DWIN	NPM	DATE	6/22		
CHKD.	MCH	DATE	3/23		
APPR.	MCH	DATE	3/23		

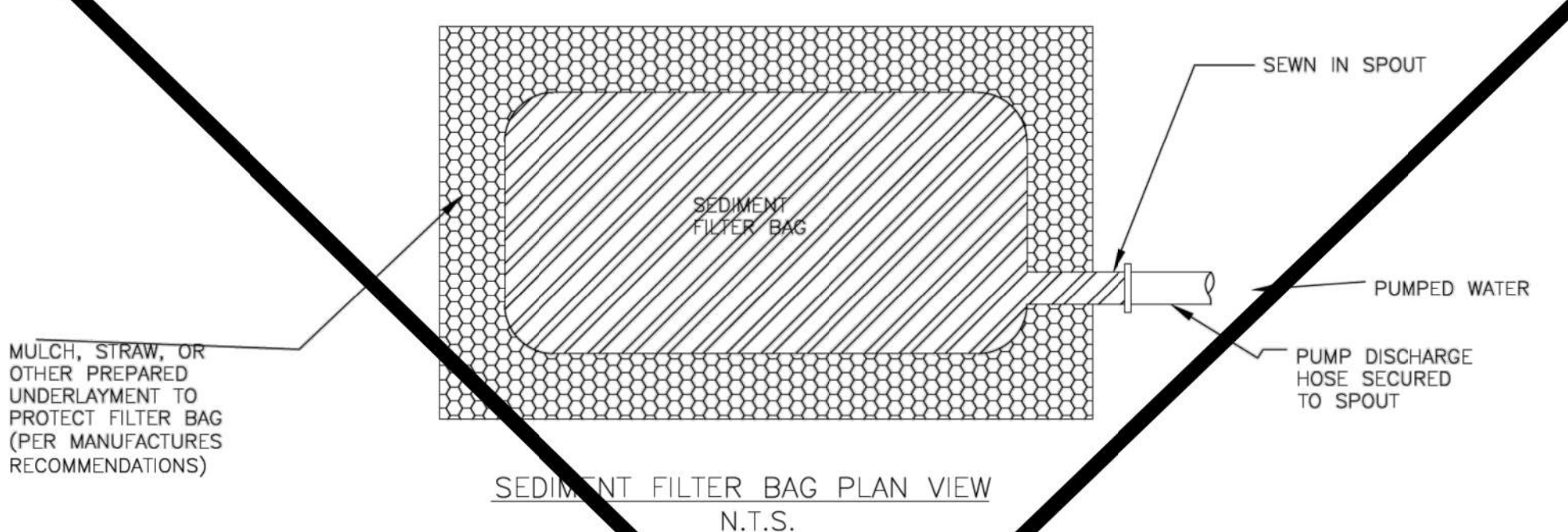
SCALE:
HORIZ. N/A
VERT. N/A

SHEET 48 OF 49 SHEETS

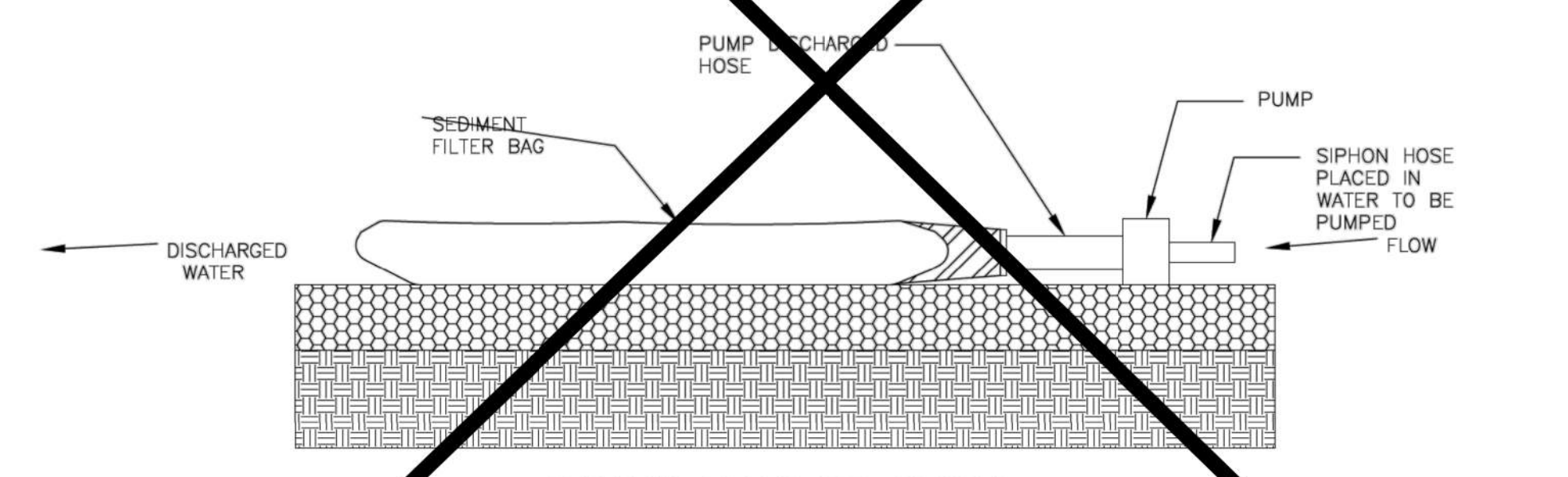


EROSION CONTROL BLANKETS
N.T.S.

SL-ER-06



SEDIMENT FILTER BAG PLAN VIEW
N.T.S.

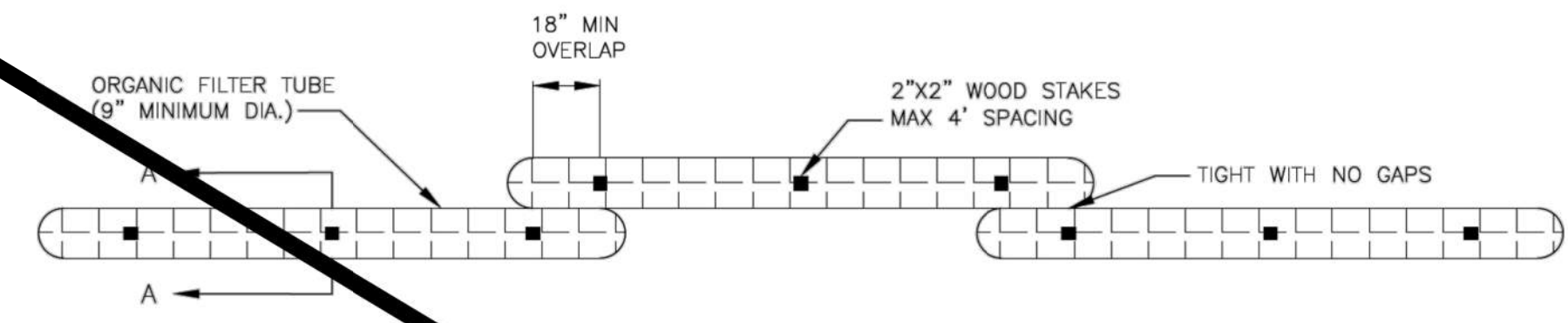


SEDIMENT FILTER BAG PROFILE
N.T.S.

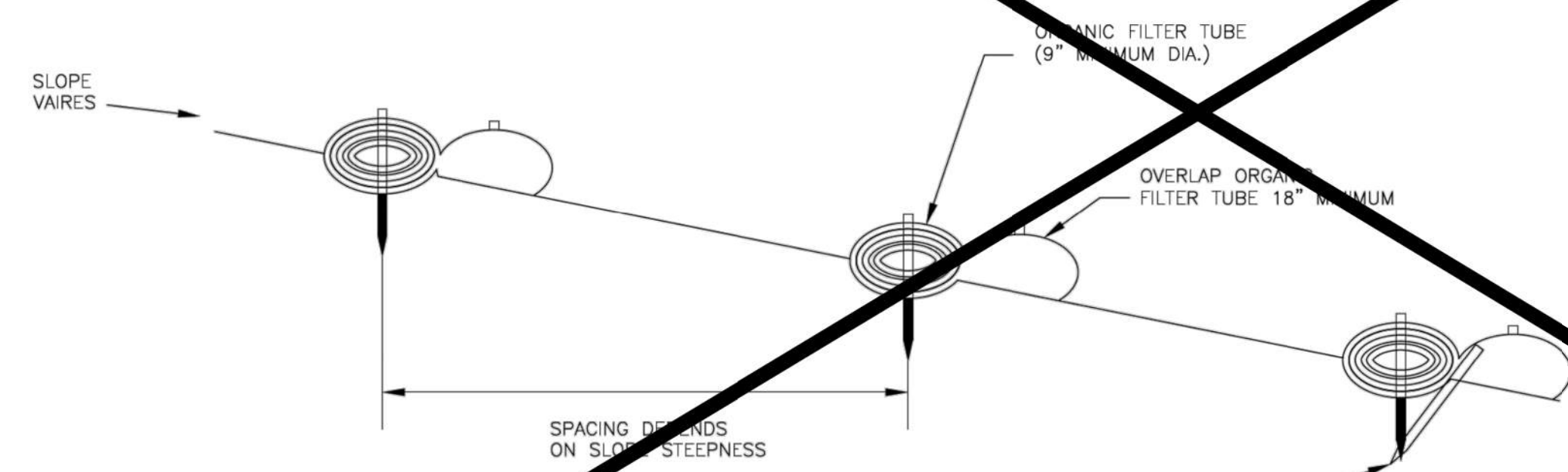
NOTE: A FILTRATION BAG IS NOT REQUIRED IF THE DRAINAGE SYSTEM CAN BE ADEQUATELY PROTECTED

DEWATERING CONTROLS
N.T.S.

SL-ER-07



ORGANIC FILTER TUBE PERIMETER CONTROL PLAN VIEW
N.T.S.



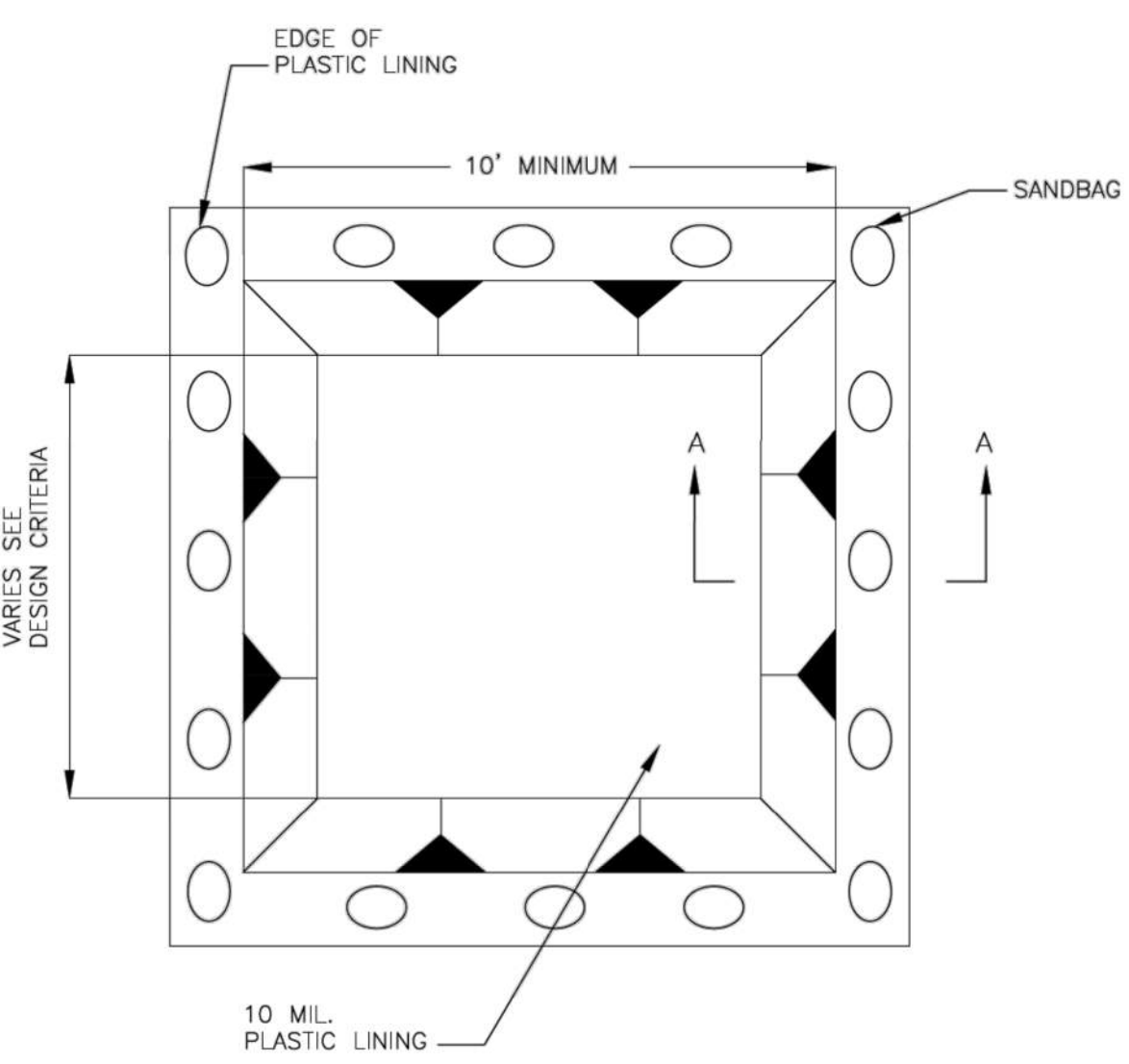
ORGANIC FILTER TUBE PERIMETER CONTROL PROFILE
N.T.S.

FOR SLOPES OF 2:1 OR STEEPER, A SECOND STRAP SHALL BE USED AGAINST THE DOWNSLOPE FACE OF THE TUBE AND BE NEEDED DEPENDING ON STRAP TYPE

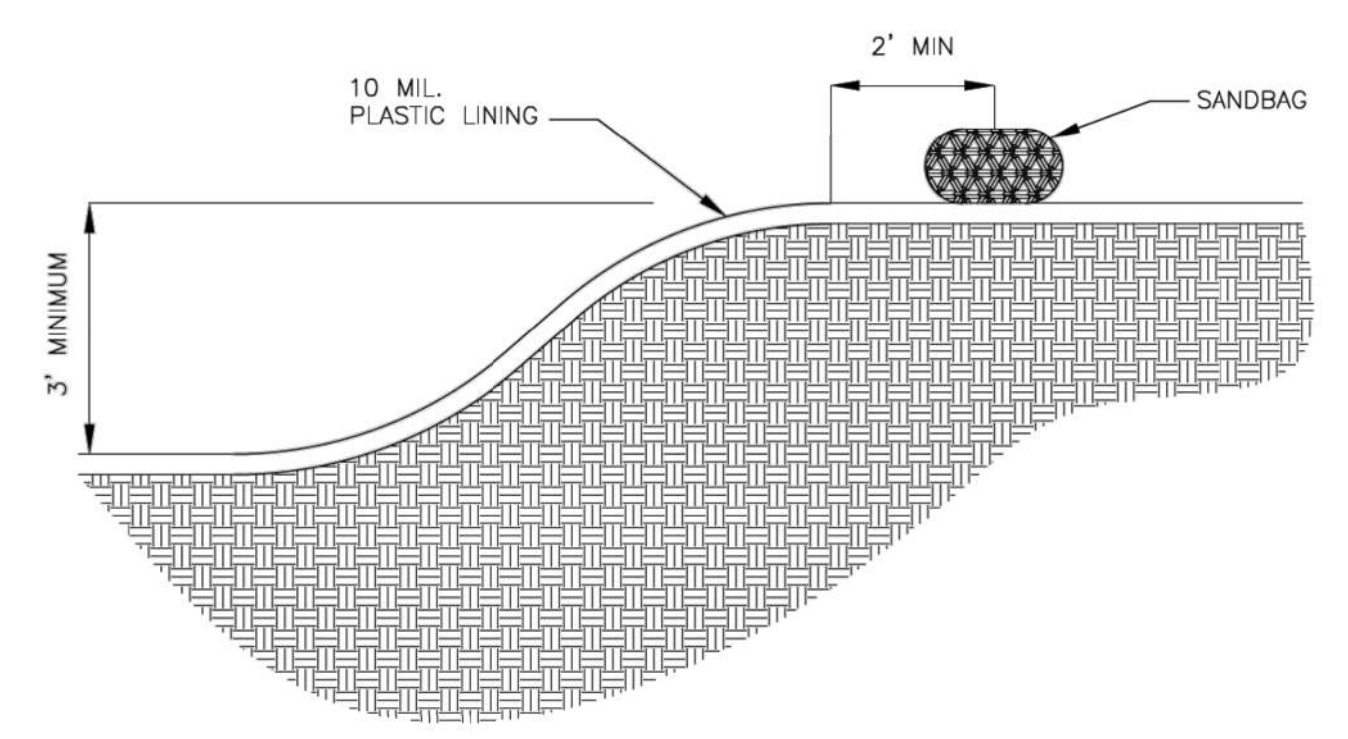
ORGANIC FILTER TUBES NOTES

1. TYPE OF NETTING, FILTER MATERIAL, DIAMETER OF TUBE, AND SPACING OF TUBES SHALL BE SPECIFIED BY THE DESIGNER BASED ON THE FOLLOWING SITE PARAMETERS:
 - SIZE OF CONTRIBUTING DRAINAGE AREA
 - STEEPNESS OF SLOPE
 - GROUND CONDITIONS (SOIL OR PAVEMENT)
2. DESIGNER SHALL SHOW ON THESE DRAWINGS THE LOCATIONS WHERE TUBE ARE TO BE TURNED UPSLOPE. UPSLOPE LENGTHS SHALL BE MINIMUM OF 10 FEET.

SL-ER-08



CONCRETE WASHOUT PLAN VIEW
N.T.S.



CONCRETE WASHOUT SECTION A-A
N.T.S.

CONCRETE WASHOUT NOTES

1. SANDBAGS MAYBE REPLACED BY A SOIL BERM TO ANCHOR THE PLASTIC BAG

CONCRETE WASHOUT AREA
N.T.S.

SL-ER-09

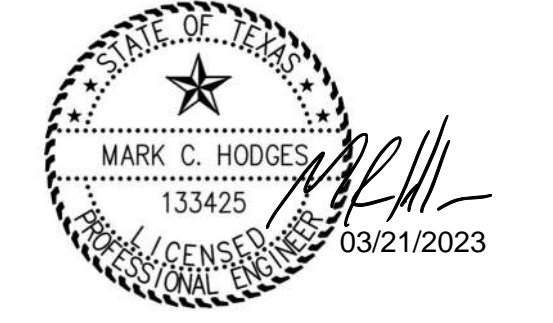
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TEMPORARY BENCHMARK "B" IS A BOX CUT IN CONCRETE AT THE SOUTHWEST CORNER OF A CONCRETE INTERCEPTOR ON THE EAST SIDE OF THE PROJECT, HAVING AN ELEVATION OF 22.36 FEET, (NAVD83, 2001 ADJUSTMENT)

FLOODPLAIN:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR BRAZORIA COUNTY, TEXAS, MAP NO. 48030C0400K EFFECTIVE DECEMBER 30, 2020, THE SUBJECT TRACT APPEARS TO LIE WITHIN UNSHADED ZONE "X".

APPR.	REVISION	DATE

ODYSSEY ENGINEERING GROUP
2500 Tanglewilde Street, Suite 300
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBPE No. F-17637



CITY OF ANGLETON
BRAZORIA COUNTY, TEXAS

121 S Velasco,
Angleton, Texas 77515

CITY OF ANGLETON
LIVE OAK RANCH

STORM WATER POLLUTION
PREVENTION PLAN DETAILS (2 OF 2)

SURV. MS. DATE 5/22	JOB NO. 21-027-00
DSGN. NPM. DATE 6/22	IMAGE NO. I-21027000-01
CHKD. MCH. DATE 3/23	SCALE: HORIZ. N/A VERT. N/A
APPR. MCH. DATE 3/23	SHEET 49 OF 49 SHEETS

C:\21-027-00\Drawings\Details\FORM WATER POLLUTION PREVENTION PLAN (SWPPP)\DETAILS.dwg, Mar 21, 2023 11:58am Edited by: Mhasegaki